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ABSTRACT

To develop a model plan for a career education curriculum laboratory, a 2-phase study was conducted with phase one concentrating upon the state-of-the-art of curriculum development in Vocational Education Curriculum Laboratories and the production, nationally, of vocational instructional materials, and phase two starting with the study of the current concepts of career. Data were collected from the directors of Vocational Education Curriculum Laboratories in 17 states and from executive officers of the State Board for Vocational Education and state directors of vocational education of the 50 states, Puerto Rico, District of Columbia, and the Trust Territory. Additional information was obtained from on-site visitations to eight laboratories throughout the nation. Data and information collected during phase one were utilized in conjunction with phase two to develop a model career education curriculum laboratory. The model laboratory consists of guidelines pertaining to: (1) selection of participants who will draft administrative policies for the laboratory, (2) purposes of laboratory operations, (3) location of laboratory, (4) selection of participants who will set curriculum development priorities, (5) curriculum development components, (6) inservice teacher education, (7) laboratory staffing, (8) laboratory size, (9) laboratory equipment, and (10) operating costs. (Author/SB)

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FINAL REPORT

Contract No. OEC-0-72-0558

A MODEL PLAN FOR A CAREER EDUCATION
CURRICULUM LABORATORY

January 1973

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Adult, Vocational,
and Technical Education
Curriculum Center for Occupational
and Adult Education

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ABSTRACT

The purpose of this study was to develop a model plan for a career education curriculum laboratory based upon a survey of the existing Vocational Education Curriculum Laboratories throughout the nation. The study consisted of two phases. Phase one was concentrated upon the study of the state-of-the-art of curriculum development in Vocational Education Curriculum Laboratories and the production, nationally, of vocational instructional materials outside of the Laboratories. Included in the survey were such items as operating budgets, facilities and equipment, size of staff, and cost analysis. Phase two started with the study of the current concepts of career education. Data and information collected in phase one were then utilized in conjunction with phase two to develop a model career education curriculum laboratory.

Data were collected from Executive Officers of the State Board for Vocational Education, State Directors of Vocational Education of the fifty states, Puerto Rico, District of Columbia, and the Trust Territory (Saipan), and from the Directors of Vocational Education Curriculum Laboratories from seventeen states. Additional information was obtained from on-site visitations to eight Laboratories throughout the nation.

The more significant data revealed by phase one were: (1) annual Vocational Education Curriculum Laboratory

budgets ranged from \$15,000 to \$980,000; (2) number of laboratory staff ranged from 1 to 23; (3) laboratory facilities ranged from 800 to 14,000 square feet; (4) inventory of equipment ranged from \$2,000 to \$600,000; (5) annual sale of curriculum materials ranged from \$2,500 to \$483,000; (6) budgeted salaries for Laboratory Directors in states with established Vocational Education Curriculum Laboratories and states considering the establishment of one ranged from \$8,220 to \$24,000; media specialists from \$5,236 to \$16,000; and curriculum specialists from \$7,986 to \$19,280; (7) duplication of most vocational instructional materials was greater in Laboratories than materials developed, nationally, outside of the Laboratories. One hundred percent of the Laboratories were developing curriculum materials in trades and industry compared to 70 percent of the states.

The major findings of phase two were as follows:

(1) career education is not synonymous with vocational education, but vocational education is a major part of career education; (2) career education enhances rather than supplants public school educational programs; (3) career education is an integral part of the total public educational enterprise; (4) career education emphasizes individual instruction and student determination; (5) career education is a continuum that begins at kindergarten and extends throughout employment; (6) career education includes specific preparation for occupations; (7) career education

assures realistic occupational choices; and (8) career education permits each student to assess realistically personal attributes as a part of setting life goals.

The model plan for a career education curriculum laboratory designed as a result of the study consisted of guidelines in these categories:

- Participants in drafting of overall administration policies of a career education curriculum laboratory

- Purposes of laboratory operations

- Location of laboratory

- Participants in setting of priorities for curriculum development

- Recommended curriculum development components

- In-service teacher education

- Staffing of curriculum laboratory

- Size of curriculum laboratory

- Equipping of curriculum laboratory

- Costs to operate curriculum laboratory

The study concluded that the model plan was not conventional in approach. It was designed with flexibility, not alternatives; with direction, rather than specifics. Any state contemplating establishing a career education curriculum laboratory or increasing the capability of its existing laboratory should use the model plan as a guide.

FINAL REPORT

Contract No. OEC-0-72-0558

A MODEL PLAN FOR A CAREER EDUCATION
CURRICULUM LABORATORY

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Appreciation is expressed to the Executive Officers of State Boards of Vocational Education and State Directors of Vocational Education in the fifty states, District of Columbia, Commonwealths, and the Trust Territory for their contributions during personal interviews and in completing the personal interview questionnaire. Appreciation is further expressed to the Executive Officers and the State Directors for their cooperation in releasing the Directors of Vocational Education Curriculum Laboratories to attend the two-day National Conference for Directors of Vocational Education Curriculum Laboratories held in Washington, D.C.

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CHAPTER I

INTRODUCTION

The National Center for Curriculum Management in Career Education was established within the Bureau of Adult, Vocational, and Technical Education, U.S. Office of Education (USOE), during the fall of 1971. A Task Force, chaired by Dr. Elizabeth J. Simpson, was appointed by Dr. Robert M. Worthington, Associate Commissioner of the Bureau, to develop and operate the Center.

The rationale for the emergence of the Center was based on the assumption that the curriculum is central to educational effectiveness and through curriculum management major educational breakthroughs can be achieved. Establishment of the Center also followed the Fifth Report of the National Advisory Council on Vocational Education released June 21, 1971, which supports the U.S. Commissioner of Education in his stance toward promulgating the career education concept.

On April 5, 1972, the Center was renamed the Curriculum Center for Occupational and Adult Education with responsibility for leadership in:

Curriculum Development

Teacher and Leadership Education

Career Development, Guidance, and Placement

The broad objectives of the Center are:

1. Coordinate with the activities of the Divisions of Adult, Vocational, and Technical Education, and Manpower Development and Training in the foregoing areas.
2. Develop a system for coordinating federal, regional, and state curriculum development and management in vocational-technical education within the context of career education.
3. Continue development of curricula in vocational-technical manpower, adult, and career education in priority areas.

The major specific objectives are:

1. Provide leadership to the states in curriculum management in career education.
2. Determine, nationwide, the "state-of-the-art" of curriculum development in vocational-technical, adult, manpower, and career education.
3. Study the need for and feasibility of an information retrieval system for curricula in vocational-technical, adult, manpower, and career education.

A more specific delineation in determining, nationwide, the "state-of-the-art" of vocational education curriculum development in vocational-technical, adult, manpower, and career education is what specifically is the "state-of-the-art," nationally, in regard to Vocational Education Curriculum Laboratories and vocational instructional materials. The challenge to obtain this information

for the Curriculum Center was accepted by the researcher, who for the past five years has been Associate State Director of the Division of Vocational Education, New Jersey Department of Education.

A letter was submitted to the Bureau of Adult, Vocational, and Technical Education detailing the methodology of a proposed research study with a request to submit a formal research grant proposal. Upon approval, the proposal was developed and transmitted to the Bureau on October 15, 1971, by Dr. Charles R. Kelley, Assistant Dean, Office of Doctoral Studies, College of Education, Fairleigh Dickinson University, Teaneck, New Jersey. The proposal was approved for funding in the amount of \$9,950, under contract number OEC-O-72-G558, on November 1, 1971, listing the researcher as Principal Investigator-Project Director and the University as the applicant organization.

Purpose of the Study

One of the objectives of the Curriculum Center for Occupational and Adult Education was to obtain data on occupational education curricula being developed within all departments of government: Examples--Education, Armed Services, Transportation, Commerce, Labor, private enterprises.

The purpose of the research study was to assist the Curriculum Center for Occupational and Adult Education by supplying specific requested data in the area of vocational education curricula developed in Vocational Education

Curriculum Laboratories and as vocational instructional materials, nationally, including the Commonwealths, District of Columbia, and the Trust Territory (Saipan). The data, plus a thorough research and understanding of the career education concept, were to form the basis for the development of a Model Plan for a Career Education Curriculum Laboratory to be used at the discretion of the Bureau of Adult, Vocational, and Technical Education.

General Statement of the Problem

Coordinative objectives of the Curriculum Center for Occupational and Adult Education are:

1. Coordinate the management activities of curriculum development within the Bureau.
2. Develop a plan for the coordination of curriculum development and management at the national level among various groups (for example, among units of the Office of Education and other federal agencies).
3. Coordinate, when feasible, the work of the Curriculum Center with the activities of the Career Model Management Task Force.

Development of a plan by the Director and staff of the Curriculum Center for the coordination of curriculum development and management at the national level was determined to be only partially feasible without a knowledge of the "state-of-the-art" in vocational education curricula developed in the various states. Data collected during the

research study supported the assumption that the majority of vocational education curricula developed for use in school systems within the various states come from Vocational Education Curriculum Laboratories, or were developed as vocational instructional materials. Vocational instructional materials were developed in most every state, including states with established Vocational Education Curriculum Laboratories.

The staff of the Curriculum Center had available, from within the Bureau, data pertaining to vocational education curricula developed as vocational instructional materials. The data, however, pertained to only a listing of curricula that was not complete or of recent date.

The only research of Vocational Education Curriculum Laboratories in the various states was a doctoral study made in 1958. The study pertained exclusively to trade and industrial occupations. In reference to other vocational education curricula and use of audiovisual materials, neither the Bureau nor the Curriculum Center had available data on the "state-of-the-art."

The doctoral research study of 1958 was conducted during the time vocational education was administered by the Smith-Hughes, George-Barden, George-Dean, and other federal vocational education acts. Since that time, two pieces of legislation drastically affecting the administration and direction of vocational education have been passed, namely, the Vocational Education Act of 1963 and the

Vocational Education Amendments of 1968. Passage of these two pieces of legislation warranted updating of the 1958 research data in addition to the fact that the study was made thirteen years ago.

Considerable emphasis of the coordinative effort of the Curriculum Center was with the Career Model Management Task Force. The emphasis of the Task Force was in concert with the career education concept promulgated by the U.S. Commissioner of Education and the Associate Commissioner for Adult, Vocational, and Technical Education. Coordination with the Task Force of the efforts being made by states in the development of occupational education curricula incorporating the career education concept and interdisciplinary approaches was virtually impossible because of the lack of data.

Scope and Delineation of the Study

The research study was designed in scope to fulfill the purpose of the federally funded project, "Development of a Model Plan for a Career Education Curriculum Laboratory." The scope of the research, therefore, was extensive and comprehensive in order to provide the Bureau of Adult, Vocational, and Technical Education and the Curriculum Center for Occupational and Adult Education with data pertinent to the "state-of-the-art" of occupational education curriculum development, nationally, in Vocational Education Curriculum Laboratories and in the area of vocational

instructional materials. The research data were to include:

1. Identification of the number of states with a Vocational Education Curriculum Laboratory.
2. Identification of the number of states developing vocational instructional materials.
3. Curriculum development in all occupational education disciplines, in all states including the Commonwealths, District of Columbia, and the Trust Territory (Saipan). Data were to specify vocational education curricula developed in Vocational Education Curriculum Laboratories, and that which was developed as vocational instructional materials.
4. Development of audiovisual materials as an aspect of curriculum development in all states, Commonwealths, District of Columbia, and the Trust Territory (Saipan).
5. Size, staff, equipment, and budget of Vocational Education Curriculum Laboratories.
6. Administration of Vocational Education Curriculum Laboratories.
7. Evidence of incorporation of the "career education concept" in vocational education curriculum development.

Definition of Terms

Vocational Education Curriculum Laboratory. A center established for accomplishing one or more of the

following purposes: (1) acquiring and disseminating educational curriculum materials; (2) acquiring, revising, and disseminating educational curriculum materials; and (3) developing needed vocational and related educational curriculum materials for dissemination, incorporating the career education concept, recommended curriculum development components, audiovisual materials, and diffusion of materials developed. The term "Laboratory" used throughout the study refers to a Vocational Education Curriculum Laboratory.

Vocational instructional materials. Vocational educational curriculum materials developed within or outside a Vocational Education Curriculum Laboratory.

State Director for Vocational Education. An educational administrator employed by the State Board for Vocational Education with responsibility to administer the State Plan.

Executive Officer of the State Board for Vocational Education. An educational administrator identified by the State Plan as the individual legally charged with the responsibility of effecting a program, policy, and regulations for vocational education in a state. In most cases this person is the State Superintendent. In some states, he is the State Director. The term "State Director" used throughout the study refers to the State Director of Vocational Education and the Executive Officer of the State Board for Vocational Education.

Interdisciplinary curriculum. A curriculum developed by two or more resource persons from various disciplines involving vertical articulation and/or horizontal correlation of subject matter.

Director, Vocational Education Curriculum Laboratory. An educational administrator responsible for the direction and coordination of the acquisition, revision, development, and diffusion of vocational education curriculum materials. The term "Laboratory Director" used throughout the study refers to the Director of a Vocational Education Curriculum Laboratory.

Regional Vocational Education Curriculum Laboratory. A laboratory incorporating sufficient staff, expertise, and facilities to assist neighboring states in establishing a laboratory. The purpose of a regional laboratory is not necessarily to provide curriculum materials to designated states within a region.

Specific Statement of the Problem

The federal contract, number OEC-O-72-G558, with the Bureau of Adult, Vocational, and Technical Education, USOE, is titled "Development of a Model Plan for a Career Education Curriculum Laboratory." The contract states that development of the project will make a national contribution to education as follows:

The development of a model plan for a Career Education Curriculum Laboratory will greatly assist the Bureau of Adult, Vocational, and Technical Education, USOE, in moving constructively and with expediency in

formulating suggested guidelines for the restructuring and/or establishment of a Career Education Curriculum Laboratory in the various states, commonwealths, and territories.

Development of a Model Plan for a Career Education Curriculum Laboratory, although paramount to the research study, can only be developed after a critical analysis of pertinent and relevant data. The research study, therefore, was designed to answer the following questions:

1. What is the "state-of-the-art" of occupational education curriculum development, nationally, in Vocational Education Curriculum Laboratories and in the area of vocational instructional materials?
2. What is the Career Education Concept and its relevance to vocational education curriculum development?
3. What is envisioned as a Model Plan for a Career Education Curriculum Laboratory?

CHAPTER II

REVIEW OF LITERATURE

An appropriate summary of the literature on Career Education and curriculum laboratories requires systematic searching, the identification and synthesis of pertinent literature, and the listing of implications for this study. Therefore, this chapter is organized in the following pattern: (a) a search pattern for relevant literature concerning Career Education, (b) implications of the Career Education literature for this study, (c) a search pattern for relevant literature concerning curriculum laboratories, and (d) implications of the curriculum laboratory literature for this study. A final summary pulls together the implications of both Career Education and curriculum laboratories for this study.

A Search Pattern for Relevant Literature Concerning Career Education

Both major information systems and key guidebooks were used for searching for pertinent publications on Career Education. The major information systems were: (1) the Education Resource Information Center (ERIC) system, and (2) doctoral dissertations available through University Microfilms.

Major Systems

"Career Education" first appeared as a descriptor in the ERIC system in the January 1972 issue of Research in Education. To date, only a few dozen items have been reported; they cannot be considered anything more than a belated and token listing of this field of literature.

The other major system searched was Dissertation Abstracts. The arrangement of the cumulative indexes (traditional categories within which were listed an alphabetical array of key words from dissertation titles) permitted only mediocre control of the doctoral dissertations. "Career Education" has not yet appeared as a category in this system; the bulk of material related to Career Education was listed under "Education--Vocational Education" and "Education--Guidance and Counseling."

A helpful listing of the important dissertations related to this concept was found. Doctoral Dissertations Concerning Career Education, 1960-1971, a May 1972 special paper of the New Jersey State Department of Education, provided a classified list of 781 such dissertations (York, 1972a).

Published Guides to the Literature

Besides a careful use of the two extensive information systems described above, there were found some key publications which provided overviews of the literature of Career Education. One was an annotated bibliography, a

second and a third were bibliographical essays, and a fourth was a review and synthesis paper.

The first, an annotated bibliography entitled Facilitating Career Development, prepared by Bailey, was published in July 1970 by the Illinois State Board of Vocational Education and Rehabilitation, and had the following purpose: "to compile an implementation oriented resource to be used by all manner of educational personnel . . . seeking direction in the implementation of career development programs [p. 4]."

The second--a bibliographic essay--was a special feature published in the Spring 1972 issue of Career Education Progress, a quarterly journal published by the New Jersey State Department of Education. The article was entitled "Career Education: A Concept in Search of a Definition" (York & Law, 1972). It provided an analysis of Career Education as promulgated by Dr. Sidney Marland, U.S. Commissioner of Education, and Dr. Robert M. Worthington, Associate Commissioner of Education, in a nearly exhaustive overview of their various speeches, editorials, journal articles, and interviews. A "Marland standard" of ten basic ingredients for a definition of Career Education was presented. The article is a useful record of the concept of Career Education as sketched by its chief proponent.

The third--also a bibliographic essay--was a special feature in the Summer 1972 issue of Career Education Progress. This lengthy article was entitled "Your Own

Private Collection of Material About Career Education" (York, 1972b). It presented an annotated list of over thirty items. Types of resources introduced were: (1) some key Marland documents, (2) some USOE publications, (3) several books, (4) two special journals concerning Career Education, (5) a few newspaper articles, (6) some Ohio State University publications, (7) doctoral dissertations, and (8) recent special papers. This essay constitutes an excellent review of the 1971 and 1972 literature on Career Education.

A fourth guide--a review and synthesis paper from the Ohio State Clearinghouse for Vocational and Technical Education--was entitled "Review and Synthesis of Foundations for Career Education" and was compiled by Herr (1972). It provided the historical, philosophical, and theoretical bases for Career Education so as to expose the assumptions and beliefs implicit in the concept. In the final chapter, Dr. Herr presented a number of careful conclusions and specified eleven areas needing further research.

Besides the use of major systems and printed overviews of this field of literature, this writer also made an item-by-item survey of recent position papers and conference addresses not yet in regular published form.

Implications of the Career Education Literature for this Study

Although Career Education is a recent synthesis of ideas, its evolution as a concept can be traced through the

first years of the twentieth century and it must be understood as part of the fabric of important events and basic conditions of American life in recent times. It is a dynamic concept with great potential for reforming American education in the direction of meeting basic and realistic needs of the majority of the students.

Three major implications of this Career Education literature for this study will be exposed and documented: the uniqueness of this concept, the perishability of this movement, and the shape of the emerging curriculum.

The Uniqueness of this Concept

Career Education is a unique concept because it brings together at one time the need for a whole cluster of changes in the American school--changes that are both major and basic. Introduced piece by piece in various dimensions, trends, and experimental projects over at least two decades, it had finally gained momentum under the leadership of Dr. Sidney Marland, U.S. Commissioner of Education, who has provided the concept an evolutionary status with three distinct models: school model, industry model, and home model.

What is so unique about Career Education is that it seeks a new unity of purpose for all of American education. It is for all students. It is for all ages. It will offer a wide range of occupational choices (Marland, 1971). It makes the schools accountable for the placement

of all their existing students--exiting either as graduates or dropouts.

To date, the term "Career Education" is officially undefined according to the only two major USOE publications that have appeared: the brief 1971 overview pamphlet "Career Education"; and the longer 1972 document "Career Education: A Handbook for Implementation." However, the ten or twelve major thrusts of the concept have been repeatedly publicized and they function as normative standards, like a very complex definition.

The Perishability of this
Career Education Movement

A common criticism of the movement toward Career Education is that it is insufficiently funded to accomplish what it purports and be all that it claims for American education.

Shimberg (1972) made it a main theme of his emphasis on the Career Education program: ". . . I believe the Commissioner may be doing us all a great disservice by suggesting that change can be brought about easily, painlessly, at low cost, and without great effort [p. 10]."

The lack of extensive funding for carrying out this major reform in American education should not be ignored. Such underfunding can be viewed in the pattern of the congressional activity in both law and appropriations for the 1963 Vocational Education Act, the 1968 Amendments, and the new Higher Education Act of 1972, in which vocational

education funding--already admittedly inadequate--is substantially plateaued at the 1971-1972 level.

Although Career Education has the unanimous support of the chief state school officers and the National Association of State Directors of Vocational Education, it does not yet have sufficient support by the Congress and its key committees to be funded realistically. Until that takes place, it will be a "revolutionary instrument that the times demand" only with the greatest of difficulty.

The Shape of the Emerging Curriculum

Developing a new curriculum for Career Education is generally recognized as a key task in the implementation of this concept. U.S. Commissioner of Education Marland, Associate Commissioner of Education Worthington, and President Nixon showed an awareness of this need for curriculum development in their public speeches.

Budke (1971) reviewed a large number of American K-12 programs emphasizing occupational exploration and concluded that curriculum development was needed at all educational levels, "with probably the greatest emphasis on elementary programs."

Reinhart (1972) contributed some fresh viewpoints on: the political and cultural support for the emergence of Career Education, the essential conservatism of the movement in maintaining the public schools, the positive and unifying quality of this reform, and some major challenges to be faced.

Herr (1972) studied recent programs of career exploration from 1963 to 1972 and concluded that the majority of them were at the elementary and junior high school, and the most work remaining to be done was at the senior high level. He underlined the inevitable partnership between vocational guidance and vocational education. Seven of his eleven recommendations for research were immediately related to developing and implementing a curriculum for Career Education.

Osipow (1972) presented major implications of research and theory on career development for Career Education. He stated that the most important implication was for Career Education programs not to be too rigid or too tight to permit the change and modification necessary for individual career development.

Miller (1972) reviewed the emerging school-based Career Education model. He identified the following eight elements and their outcomes as a basis for developing grids which would also incorporate grade levels and occupational clusters:

<u>Elements</u>	<u>Outcomes</u>
1. Career awareness	Career identity
2. Self-awareness	Self-identity
3. Appreciations, attitudes	Self-social fulfillment
4. Decision-making skills	Career decisions
5. Economic awareness	Economic understandings
6. Skill awareness	Employment skills
7. Employability skills	Career placement
8. Educational awareness	Educational identity

Miller predicted a metamorphosis of Career Education from its present disconnectedness of concept to cohesive and relevant programs within just a few years.

A Search Pattern for Relevant Literature
Concerning Curriculum Laboratories

As with the search for information on Career Education, the search for materials on curriculum laboratories involved these two major information systems: (1) ERIC, and (2) the doctoral dissertation materials reported in Dissertation Abstracts.

ERIC

The ERIC system included the following descriptors of interest to this study: they are arranged logically in order of increasing generality: Curriculum Study Centers, Curriculum Design, Curriculum Planning, Curriculum Problems, Curriculum Research, and Curriculum Development.

A search through April 1972 under these six official descriptors in Research in Education, A.I.M./A.R.M., and in Current Index to Journals in Education (CIJE)--all segments of the ERIC system--revealed the following number of items available for review:

<u>Topic</u>	<u>Research in education</u>	<u>A.I.M./ A.R.M.</u>	<u>CIJE</u>	<u>Total</u>
Curriculum study centers	13	1	2	16
Curriculum design	161	16	238	415
Curriculum planning	201	55	128	394
Curriculum problems	17	2	30	49
Curriculum research	143	34	29	206
Curriculum development	1227	227	954	2408

Note.--Although the first full year for the ERIC system was 1967, CIJE's earliest full year was 1969.

This configuration of available items required intensive reading on a few items and fast scanning on less related items.

Dissertation Abstracts

For the most part, no simple access to needed materials was possible through the indexes of Dissertation Abstracts. From 1931 to 1969, this series relied on indexes organized by traditional categories, then subcategories, and finally key words to dissertation titles. The best search pattern possible was to look for the key word "Curriculum" under the following patterns:

Pattern #1. Education

Industrial and Vocational

Curriculum . . .

Pattern #2. Education

General

Curriculum . . .

Pattern #3. Education

Theory and Practice

Curriculum . . .

The lack of precision in this kind of searching is obvious, when a study of the Retrospective Index to Volumes 1 to 29 of Dissertation Abstracts International produced the following results: Pattern #1--1 item, Pattern #2--197 items, and Pattern #3--168 items. The system itself has a notable number of pertinent studies, but they were mainly

discovered in ways other than these indexes for the years 1931-1969.

Beginning with 1970, the search pattern for this system was simplified by the development of key word listings for each monthly issue of Dissertation Abstracts International. Experimentation showed that searching under the key word "Laboratory" in series A (Social Studies) was a better search pattern than searching under "Curriculum"; this approach assumed that curriculum laboratory was an accepted term used almost exclusively to express that concept. Over 100 titles were thus examined from January 1970 to May 1972; one related to this study.

Reference Works

Besides the major information systems discussed above, both specific articles and the general index to all volumes of The Encyclopedia of Education (1971) were checked. For example, the following articles were checked for references to curriculum laboratories: Vocational Education in the Schools; Curriculum Trends; Industrial Arts Education: Curriculum Developments; Curriculum Development Projects; and Curriculum Building. The following item in the index was checked: Curriculum Reform. Little was located, except in one important article: the first listed above.

An Available Review of Research

A key contribution was found in the review of major research concerning curriculum laboratories by Church (1970)

in his article "Curriculum Laboratory" in the April 1970 issue of Educational Leadership. This is an excellent listing of previous research, especially unpublished doctoral dissertations.

Implications of the Curriculum Laboratory Literature for this Study

Curriculum laboratories, many beginning in the 1920's and experiencing considerable financial support in the early 1940's (under a program known as "Vocational War Production Workers") have shown remarkable staying power, flexibility, and continuing promise for educational development. Sections below report the literature as it relates to their history, functioning, development, and evaluation.

History

A comprehensive review of the literature on curriculum laboratories until 1963 was provided by James (1963), who formulated specific characteristics for curriculum laboratories in teacher education institutions.

The high potential of curriculum laboratories was documented by Ash (1971) as he reported these proposals of the President's Panel of Consultants on Vocational Education in 1962:

- (1) One or more instructional material laboratories be established to produce and distribute vocational instructional materials;
- (2) It be a responsibility of the Office of Education to (a) Establish and administer instructional materials laboratories through contractual arrangements with a State department of education, a college, a university, or a large school district; (b) Develop policies for the operation, coordination between

centers, production of the materials, and distribution of materials produced in these centers; (c) Finance the operation of these centers; (3) An adequate quantity and an appropriate quality of instructional supplies, tools, instruments, and equipment be recognized as essential to good instruction [p. 513].

Despite these recommendations, however, the failure of the 1963 Vocational Education Act to provide specific monies for this purpose has kept this sleeping giant sleeping.

Functioning

Earlier studies of the functioning of curriculum laboratories include: an analysis of their functioning (MacWilliams, 1947); a study of their organization and administration (Olson, 1952); an analysis of quantifiable data--such as staff, hours, space, types of materials, budget, and utilization (Phillips, 1956); and a more comprehensive version of the Phillips project by Flandro (1957).

Three major research documents in recent years deserve more extensive reporting here. Ellis (1969) studied the role of the curriculum laboratory in the preparation of quality teachers. She defined a curriculum laboratory as a place where pre-service and in-service teachers are exposed to an assortment of materials for experimentation, evaluation, and the enrichment of teaching and learning. She discovered over 300 such operations. Over 70 percent did not consider themselves as branches of the library but as departmental or school of education resources.

Tuckman (1969) contributed to national curriculum

development efforts for employment-seeking high school students through establishing communication between state-supported curriculum development centers, assisting such center directors with behavioral approaches, and refining a scheme to classify educational objectives in terms of performance.

Syropoulos (1971) examined the existing program of the curriculum laboratories of the Detroit Public Schools system to find a rationale for the development of a network of such curriculum laboratories. On the basis of the data, he recommended the following: (1) a network of five curriculum laboratories geographically located; (2) available to all the teachers in the system; (3) hours of operation: 8:15 a.m. to 9:00 p.m. and Saturdays; (4) additional types of personnel are urgently needed; (5) a laboratory should have a space between 3,500-4,000 square feet; (6) combination of the Schools Center Curriculum Laboratory and the Professional Library; (7) more effective communication approaches should be explored between the laboratory and the teachers; (8) additional equipment and references are needed; and (9) almost all equipment should be replaced with new models every five years.

Further description of the Detroit curriculum laboratory system was provided by Grimes (1972). The system's goal was to provide a place where "teachers and others can assume an active, personal role in a process of continuous educational development and change in relation to specific instructional problems with which they are dealing." Under

the rationale of a developmental cycle, Grimes explained the role of the two chief types of services: information services and materials preparation.

Development

Zembrodt (1944) studied the degree of need for a curriculum laboratory at St. Louis University and which materials would be most helpful to teachers. Arnett (1965) analyzed factors which make elementary and secondary curriculum materials accessible for students in Ohio teacher education centers and reported meritorious practices for organizing curriculum laboratories.

Evaluation

The University of Connecticut School of Education Curriculum Center (1951) determined the facilities and practices making their materials useful to those concerned with curriculum development and implementation.

Church (1957) developed criteria for evaluating curriculum laboratories in teacher education institutions. He drew on other studies for his criteria and then tested them by questionnaire.

Strong (1958) investigated how trade and industrial education curriculum materials had been developed in the United States and discovered extensive ways that USOE could coordinate, economize, and improve this operation.

Puzzuoli (1970) evaluated the work of the eight-county West Virginia Multi-Purpose Center for Curriculum

Improvement. He concluded that the overall attitude toward the center's role in bringing change to Region II schools was favorable.

Summary

Thinking of the information reviewed above--both concerning Career Education and curriculum laboratories--as one research base, it is now desirable and possible to state the most important implications for this study.

1. Career Education has a high priority in USOE, state departments of education, and a growing number of educators at every level.

2. The development of curriculum has a high priority within Career Education.

3. Curriculum laboratories have a demonstrated utility in American education, despite their financial neglect through the years.

4. Not only funding but standardization, coordination, and accountability have been major problems of curriculum laboratories.

5. No recent data were found concerning the operation of state vocational-technical curriculum laboratories.

6. No model plan for a career education curriculum laboratory was found. No accepted standards for general curriculum laboratory operation were found.

CHAPTER III

PROCEDURES OF THE STUDY

Development of Instruments

Data gathering instruments were developed after a thorough analysis of the problem defined by the Director and Staff of the Curriculum Center for Occupational and Adult Education. Specific data were enumerated under the Scope and Delineation of the Study, Chapter I.

The data gathering instruments were developed, critiqued, and revised before receiving approval of: the Director and staff of the Curriculum Center for Occupational and Adult Education, and of the Associate Commissioner for the Bureau of Adult, Vocational, and Technical Education.

Origin of Data

Research data were obtained from: State Directors of the fifty states, including the Directors of Puerto Rico, District of Columbia, and the Trust Territory (Saipan); Directors of Vocational Education Curriculum Laboratories of the various states; and visitations to eight selected Vocational Education Curriculum Laboratories throughout the country.

Collection of Data

Questionnaires were completed during a personal interview with State Directors, including the Directors of Puerto Rico, District of Columbia, and the Trust Territory (Saipan). The personal interviews were conducted during the State Directors' Leadership Seminar in Las Vegas, Nevada, September 14 through 16, 1971, and the Management Systems Seminar, Squaw Valley, California, September 27 through October 1, 1971. Four State Directors were contacted by telephone.

The Research Grant Proposal called for a two-day conference of Directors of Vocational Education Curriculum Laboratories. These Directors were identified from the Personal Interview Questionnaires completed by the Directors of Vocational Education of the various states, the Commonwealths (Puerto Rico), District of Columbia, and the Trust Territory (Saipan). The conference was held at the Skyline Inn, Washington, D.C., November 15 and 16, 1971. During the session, prepared questionnaires and other forms were completed. Additional information was obtained from notes taken during oral discussions.

Personal visitations were made by the researcher to eight selected Vocational Education Curriculum Laboratories in the various states for the purpose of conferring with the Director and Staff pertaining to the administration and operation of the Laboratory, plus an on-site observation of the facility.

Processing of Data

The research study was of the nature that the methods of processing the data varied considerably--comparative, analytical, judgmental, and descriptive. Percentages were used to a degree, but where numbers were small, they were stated as such in relationship to the total. Categorization of data as a method of processing was also used extensively.

A portion of the data from eight of the seventeen Vocational Education Curriculum Laboratories visited was statistical. Most data, however, used in the study pertaining to the visitations were judgmental and descriptive in nature.

CHAPTER IV

REVIEW OF CURRENT PRACTICE

Data from Executive Officers of State Boards
of Vocational Education and State Directors
of Vocational Education

A personal survey was made of the Executive Officers of State Boards of Vocational Education and the State Directors of Vocational Education in the fifty states, Commonwealths, District of Columbia, and the Trust Territory. The purpose of the survey was to determine:

1. How many states have a Vocational Education Curriculum Laboratory.
2. Related information pertaining to Vocational Education Curriculum Laboratories.
3. How many states were developing vocational instructional materials whether or not the state had a Vocational Education Curriculum Laboratory.
4. Related information pertaining to vocational instruction materials.

The following parameters were used in discussions with Executive Officers and State Directors in determining whether the state, in fact, has a Vocational Education Curriculum Laboratory.

1. Size of designated facility.

2. Number of full-time staff.
3. Approximate investment in equipment.
4. Approximate annual budget.

Table 1 lists the seventeen states with Vocational Education Curriculum Laboratories identified by the State Directors as meeting the four parameters outlined above. Thirty-three states, in addition to the Commonwealths, District of Columbia, and the Trust Territory had not established a Laboratory. Within the latter group, eleven states were contemplating the establishing of one.

It should be noted that although many states did not have a Vocational Education Curriculum Laboratory, most of them had developed curriculum materials for vocational education through a variety of means. For example, one of the State Directors indicated that the State Division of Vocational Education has use of the Department of Education's Professional and Curriculum Development Office; another reported that the Division of Vocational Education has use of the curriculum development facilities, including the staff at the State University; still another made it known that the Division of Vocational Education was contracting with a technical institute for the development of vocational education curriculum materials.

Size, Staff, Equipment, and Budget of Vocational Education Curriculum Laboratories

The size of facility, staff, equipment, and budget of the Vocational Education Curriculum Laboratories varied

TABLE 1

STATES WITH VOCATIONAL EDUCATION CURRICULUM
LABORATORIES IDENTIFIED BY STATE DIRECTORS

States with Vocational Education Curriculum Laboratories	Notes
California	Just starting
Connecticut	Just starting
Illinois	
Indiana	
Kentucky	
Louisiana	
Massachusetts	Just starting
Mississippi	
New Jersey	
New York	
North Carolina	
Ohio	
Oklahoma	
South Carolina	
Tennessee	
Texas	
Virginia	

considerably from state to state, as shown in Table 2.

Data in Table 2 indicate: size of Laboratories ranged from a low of 800 square feet to a high of 14,000 square feet, with a mean of 4,118 square feet; Laboratory staff ranged in number from a low of 1 to a high of 22, with a mean of 7-1/2; inventory of equipment ranged from a low of \$2,000 to a high of \$600,000, with a mean of \$130,776; and annual budgets ranged from a low of \$10,000 to a high of \$300,000, with a mean of \$175,865.

Curriculum Materials Developed in the Various States

Most of the states had developed curriculum guides in all seven vocational program areas, i.e., agricultural, distributive education, office occupations, technical education, trade and industry, health occupations, and home economics, whether they had a Vocational Education Curriculum Laboratory or not. However, differences were found in the areas of Industrial Arts and Elementary Occupational Orientation, for which relatively few states with a Vocational Education Curriculum Laboratory had developed curriculum guides. The various vocational education curriculum materials developed in the states as reported by the State Directors are given in Table 3.

Dissemination of Vocational Education Curriculum Materials

Information on the degree of dissemination of vocational curriculum materials was sought and the results are

TABLE 2

STATISTICS ON LABORATORY FACILITIES REPORTED BY STATE
DIRECTORS FROM STATES WITH VOCATIONAL EDUCATION
CURRICULUM LABORATORIES

Size of facility	Number of staff	Inventory of equipment	Approximate annual budget
900	1	Surplus	Just starting
800	1	-	20,000
2,000	8	150,000	60,000
-	6	20,000	250,000
1,200	12	Provided by university	200,000
Just starting	1	30,000	50,000
6,000	20	200,000	248,000
2,400	2	60,000	125,000
2,500	9	200,000	125,000
Office space only	5	Office only	150,000
14,000	12	50,000	300,000
10,000	2	10,000	60,000
4,000	1	4,000	10,000
2,000	1	2,000	10,000
7,000	21	50,000	140,000
3,000	9	200,000	200,000
-	7	200,000	-
4,500	22	600,000	296,000
4,000	8	25,000	76,500
4,500	8	112,200	66,800
1,200	5	60,000	130,000
-	4	250,000	60,000

Note.--Total number of State Directors responding = 17.

TABLE 3
NUMBER OF STATES DEVELOPING VARIOUS VOCATIONAL EDUCATION
CURRICULUM MATERIALS REPORTED BY STATE DIRECTORS

Materials developed	No. of states with Voc. Ed. Curr. Labs.	No. of states without Voc. Ed. Curr. Labs.	Total
Curriculum guides			
Agriculture	10	26	36
Distributive education	13	26	39
Office occupations	10	27	37
Technical	9	14	23
Trade and industry	11	24	25
Health	8	21	29
Home economics	13	29	42
Industrial arts	4	17	21
Elem. occup. orientation	3	16	19
Apprentice trades	6	10	16
Vocational guidance	9	19	28
Student manuals	8	16	24
Student workbooks	7	10	17
Teacher handbooks	9	19	28
Overhead transparencies	11	18	29
Slides	9	8	17
Film strips	6	10	16
Audio tapes	5	5	10
Video tapes	4	7	11
Reel cassettes	1	4	5
16-mm films	4	4	8
8-mm loop films	3	14	17
Posters	4	7	11
Newsletters	7	14	21
Other	-	2	2

Note.--Total number of State Directors responding = 45.

tabulated in Table 4. The data seem to indicate poor dissemination in some of the states. Dissemination among the states ("nationally") is even lower. This is one obvious reason why there could be considerable duplication of curriculum materials among the different states.

Need for Leadership in Coordinating and
Disseminating Vocational Education Cur-
riculum Materials on the Washington Level

The data provided in Tables 3 and 4 naturally lead to the question whether an office is needed on the Washington level to coordinate and disseminate vocational curriculum materials for all of the agencies involved in the development of such materials. The answers to this question are assembled in Table 5.

Need for Vocational Education Curriculum
Guidelines from the Washington Level in
Emerging and Innovative Areas

Most of the State Directors further indicated a need for guidelines from the Washington level in such emerging and innovative areas as career education, job clusters, interdisciplinary curriculums, curriculums for cable TV, and modular curriculum units. Only seven Directors responded in a negative way. The data are summarized in Table 6.

Need for Regional Vocational
Education Curriculum Laboratories

A similar question was directed to the State Directors in regard to the need for Vocational Education

TABLE 4
NUMBER OF STATE DIRECTORS INDICATING THE DEGREE OF
DISSEMINATION OF VOCATIONAL EDUCATION
CURRICULUM MATERIALS

Degree of dissemination	Number of states
Widely throughout the state	29
Moderately throughout the state	12
Little throughout the state	2
Nationally	12
Foreign countries	5

Note.--Total number of State Directors responding = 43.

TABLE 5

NUMBER OF STATE DIRECTORS INDICATING A NEED FOR AN
OFFICE ON THE WASHINGTON LEVEL TO COORDINATE AND
DISSEMINATE VOCATIONAL EDUCATION CURRICULUM
MATERIALS FROM ALL AGENCIES

Response		Percent
Yes	39	91
No	4	9
Total	43	100

Note.--Total number of State Directors responding = 43.

In addition to checking "yes," eleven Directors indicated that the Ohio Center should also coordinate and disseminate;

Two State Directors indicated that coordination and dissemination should be on a regional basis;

Two State Directors indicated that coordination and dissemination should be at the Ohio Center; and

One State Director indicated that the USOE should measure up to present responsibilities before further modification.

TABLE 6

NUMBER OF STATE DIRECTORS INDICATING A NEED FOR
CURRICULUM GUIDELINES FROM THE WASHINGTON
LEVEL IN EMERGING AND INNOVATIVE AREAS

Response		Percent
Yes	40	85
No	7	15
Total	47	100

Note.--Total number of State Directors responding = 47.

In such areas as:

Career education	39
Job clusters	38
Interdisciplinary curriculums	34
Curriculums for cable TV	32
Modular curriculum units	36

Curriculum Laboratories on a regional basis. The answers to this question from those states with a Laboratory seemed divided, as can be seen in Table 7. However, in counting the responses from all the responding State Directors, it was found that 65 percent of them favored the establishment of a regional Laboratory. Table 8 indicates these results.

Response to Locating the Vocational Education Curriculum Laboratory in One Center

Forty-two of the forty-three, or nearly 98 percent of the State Directors responding, thought that Vocational Education Curriculum Laboratories should be located in one center to insure coordinated efforts in the total program, lower the cost of operation, enter disciplinary approaches to curriculum construction, incorporate audiovisual communication specialists in curriculum construction, and develop flexible and adaptable curriculum materials to serve the local education agency (LEA) using modular scheduling, educational and cable TV. However, there were four State Directors who expressed the opinion that there could be more than one center to meet the state's needs, if operations were coordinated. Table 9 indicates these results.

Location of Present Vocational Education Curriculum Laboratories

Table 10 indicates that seven, or 41 percent, of the present Laboratories are located in State Departments of Education and six, or 35 percent, are located in universities.

TABLE 7

REPORT ON THE NEED FOR REGIONAL VOCATIONAL
EDUCATION CURRICULUM LABORATORIES BY STATE
DIRECTORS FROM STATES WITH VOCATIONAL
EDUCATION CURRICULUM LABORATORIES

Response		Percent
Yes	7	50
No	7	50
Total	14	100

TABLE 8
NUMBER OF STATE DIRECTORS REPORTING ON THE
NEED FOR REGIONAL VOCATIONAL EDUCATION
CURRICULUM LABORATORIES

Response		Percent
Yes	29	65
No	17	36
Total	46	100

TABLE 9
 NUMBER OF STATE DIRECTORS REPORTING ON THE LOCATION
 OF THE VOCATIONAL EDUCATION CURRICULUM
 LABORATORY IN ONE CENTER

Laboratories should be located in one center to insure:	Agree	Disagree
Coordinated effort in total program	42	1
Lower cost effectiveness of operation	43	0
Interdisciplinary approaches to curriculum construction	42	1
Incorporation of audiovisual communi- cation specialists in curriculum construction	43	0
Flexible and adaptable curriculums to serve LEAs using modular scheduling, educational and cable TV	43	0

Note.--Total number of State Directors responding = 43,
including Puerto Rico and the Trust Territory.

TABLE 10
NUMBER OF STATE DIRECTORS FROM STATES WITH VOCATIONAL
EDUCATION CURRICULUM LABORATORIES INDICATING
VARIOUS LOCATIONS OF LABORATORIES

Location	Number
State department of education	7
University	6
Department of community colleges (state level)	1
Area vocational school	1

Note.--Total number of State Directors responding = 15.

Administrative Patterns of Vocational Education Curriculum Laboratories

There was no uniform pattern of administration of the existing Vocational Education Curriculum Laboratories. It was found, however, that the Division of Vocational Education played an important role in most cases. The answers to the question regarding administrative patterns are given in Table 11.

Data in Table 11 indicate that although the staffs of the Divisions of Vocational Education play an important role in the administration of the Vocational Education Curriculum Laboratories, State Directors are not intimately involved, in the majority of cases, in setting or approving priorities of curriculum materials developed in the Laboratory or as vocational instructional materials.

Funding for Vocational Education Curriculum Laboratories and Vocational Instructional Materials

One of the important questions the researcher raised was how the vocational education curriculum development activities were funded in the different states. The sources of funding were divergent but they can be generally classified into five categories as shown in Table 12.

It can be seen from Table 12 that the majority of the states received money from both the federal and state vocational education funds for the development of vocational education curriculum materials. It was also found through interviewing the State Directors that eight, or approximately

TABLE 11
 NUMBER OF STATE DIRECTORS FROM STATES WITH VOCATIONAL
 EDUCATION CURRICULUM LABORATORIES INDICATING VARIOUS
 ADMINISTRATIVE PATTERNS OF LABORATORIES

Administrative patterns	Number of states
Exclusively by the Division of Vocational Education	6
By the Director of Laboratory under guidelines established by the Division of Vocational Education	4
Jointly by the Director of Laboratory and the Division of Vocational Education	2
Jointly by the Director of Laboratory and the Department of Community Colleges (state level)	1
By State Supervisors of Services with the cooperation of the university	1
By the Director of Laboratory under guidelines established by the Department of Occupational Education and Technology and by the Director of Laboratory under guidelines established by the university	1

Note.--Total number of State Directors responding = 15.

TABLE 12

NUMBER OF STATE DIRECTORS INDICATING VARIOUS SOURCES OF
FUNDING FOR VOCATIONAL EDUCATION CURRICULUM LABORATORIES
AND VOCATIONAL INSTRUCTIONAL MATERIALS

	Number of states with Voc. Ed. Curr. Labs.	Number of states without Voc. Ed. Curr. Labs.	Total
Exclusively by federal vocational education funds	3	1	4
Exclusively by state vocational education funds	1	2	3
Federal and state funds	11	19	30
Vocational education and university, col- lege, or other funds	0	2	2
Other	0	5	5
Total	15	29	44

Note.--Total number of State Directors responding = 44.

50 percent, of the Vocational Education Curriculum Laboratories received money from the sale of curriculum materials for their operating budget.

Duplication of Funding

Ten State Directors of Vocational Education reported that there had been additional funds allotted in their states for the development of vocational instructional materials outside of the Vocational Education Curriculum Laboratory. Although this does not necessarily mean duplication of curriculum efforts, it seems desirable for the Laboratory, if there is one, to do the overall planning and coordination of all activities in the development of vocational instructional materials. Out of the ten State Directors, three even claimed that their Directors of the Vocational Education Curriculum Laboratory had no knowledge of what materials were being developed outside of the Laboratory. Furthermore, one of the State Directors did not think there was anything done to avoid duplication of efforts in the development of vocational education curriculum materials. Data related to this question are shown in Table 13.

Advisory Committees Involved in the Approval of the Publication of Vocational Education Curriculum Materials

Most of the State Directors who had a Vocational Education Curriculum Laboratory in their state reported the use of advisory committees involved in the approval of vocational curriculum materials published by their Laboratories.

TABLE 13

NUMBER OF STATE DIRECTORS FROM STATES WITH VOCATIONAL
EDUCATION CURRICULUM LABORATORIES INDICATING FUNDS
ALLOCATED FOR THE DEVELOPMENT OF VOCATIONAL
INSTRUCTIONAL MATERIALS IN ADDITION TO
MATERIALS DEVELOPED IN THE LABORATORY

Additional funds allocated	Materials developed with knowledge of Laboratory Director	Effort to avoid duplication
No	-	-
Yes	No ^a	Yes
Yes	Yes	Yes
Yes	Yes	Yes
No	-	-
Yes	Yes	Yes
Yes	Yes	Yes
Yes	No	No
No	-	-
Yes	No	Yes
Yes	Yes	Yes
No	-	-
No	-	-
Yes	Yes	Yes
Yes	Yes	Yes

Note.--Total number of State Directors responding =15.

^aNon-trade and industry only.

Over one-half of the states that did not have a Vocational Education Curriculum Laboratory indicated the use of advisory committees in the approval of vocational instructional material publications. The responses from the State Directors are given in Table 14.

As to the various groups serving in an advisory capacity, the reports from both the State Directors who had a Vocational Education Curriculum Laboratory and those without a Laboratory were about the same. These advisory groups included lay citizens, organized labor, management, skilled craftsmen, and faculty members. Table 15 lists the responses.

Specific information on the use of specific advisory groups was also sought from the State Directors. A detailed analysis of their responses is shown in Table 16.

Reasons for Not Establishing a Vocational Education Curriculum Laboratory

It was reported in the beginning of this chapter that at the time when this study was made only seventeen states had established a Vocational Education Curriculum Laboratory. The researcher was naturally interested to find out the reasons for not establishing a Laboratory. Table 17 summarizes the reasons for not establishing a Laboratory as reported by thirty State Directors.

A more detailed analysis of the specific reasons for not establishing a Vocational Education Curriculum Laboratory was made and the results are shown in Table 18.

TABLE 14

NUMBER OF STATE DIRECTORS INDICATING THE USE OF ADVISORY
COMMITTEES INVOLVED IN THE APPROVAL OF VOCATIONAL
INSTRUCTIONAL MATERIAL PUBLICATIONS

Response	No. of states with Voc. Ed. Curr. Labs.	No. of states without Voc. Ed. Curr. Labs.	Total
Yes	11	10	21
No	3	9	12
Total	14	19	33

Note.--Total number of State Directors responding = 33.

TABLE 15

NUMBER OF STATE DIRECTORS INDICATING THE USE OF VARIOUS
ADVISORY GROUPS INVOLVED IN THE APPROVAL OF VOCATIONAL
INSTRUCTIONAL MATERIAL PUBLICATIONS AND VOCATIONAL
CURRICULUM MATERIALS PUBLISHED BY VOCATIONAL
EDUCATION CURRICULUM LABORATORIES

Advisory groups	No. of states with Voc. Ed. Curr. Labs.	No. of states with- out Voc. Ed. Curr. Labs.	Total
Lay citizens	10	16	26
Organized labor	9	21	30
Management	11	21	32
Skilled craftsmen	11	24	35
Faculty members	10	21	31
Other	-	2	2

Note.--Total number of State Directors responding = 38.

TABLE 16

NUMBER OF STATE DIRECTORS INDICATING THE USE OF SPECIFIC
ADVISORY GROUPS INVOLVED IN THE APPROVAL OF VOCATIONAL
INSTRUCTIONAL MATERIAL PUBLICATIONS AND VOCATIONAL
CURRICULUM MATERIALS PUBLISHED BY VOCATIONAL
EDUCATION CURRICULUM LABORATORIES

Specific advisory groups	Number of states
Involve lay citizens, organized labor, management, skilled craftsmen, and faculty members	21
Involve <u>only</u> organized labor, skilled craftsmen, and faculty members	1
Involve <u>only</u> organized labor and skilled craftsmen	2
Involve <u>only</u> faculty members	1
Do <u>not</u> involve lay citizens	10
Do <u>not</u> involve organized labor	7
Do <u>not</u> involve skilled craftsmen	1
Do <u>not</u> involve management	4

Note.--Total number of State Directors responding = 38.

TABLE 17
 NUMBER OF STATE DIRECTORS REPORTING ON REASONS FOR
 NOT ESTABLISHING A VOCATIONAL EDUCATION
 CURRICULUM LABORATORY

Reasons	Number of states
Facilities a problem	7
Staffing a problem	13
Financing a problem	19
Laboratory planned in the future	11
Do not see a need	2
University(s) and/or college(s) providing curriculum materials	4
Other*	5

Note.--Total number of State Directors responding = 30.

*Other:

Contracting with local education agencies

Materials developed by divisional staff

State staff contracts

Using services of New England Resource Center
for Occupational Education (two states)

TABLE 18

NUMBER OF STATE DIRECTORS INDICATING SPECIFIC
REASONS FOR NOT ESTABLISHING A VOCATIONAL
EDUCATION CURRICULUM LABORATORY

Specific reasons	Number of states
Financing	5
Financing--Laboratory planned in the future	1
Financing--staffing	4
Financing--staffing--Laboratory planned in the future	3
Financing--staffing--facilities	3
Financing--facilities--Laboratory planned in the future	1
Financing--facilities--staffing--Laboratory planned in the future	1
Financing--staffing--college now provides services, Laboratory planned in the future	1
College provides services	2
College provides services--Laboratory planned in the future	1
Laboratory planned in the future	2
Using services of New England Resource Center for Occupational Education	2
State staff contracts for services	1
State staff contracts with LEAs	1
Curriculum materials developed by state staff	1
State media services provides services	1
No need for a Vocational Education Curriculum Laboratory	2

Note.--Total number of State Directors responding = 32.

Difficulty in Hiring Qualified Specialists

It was revealed by the State Directors that there were difficulties in hiring qualified specialists to staff Vocational Education Curriculum Laboratories and Divisions of Vocational Education. Vocational curriculum specialists and audiovisual communication specialists are specific kinds of personnel mentioned by the State Directors. Tables 19 and 20 present the findings.

Laboratories Ready to Develop Materials Relating to the Broad Concept of Career Education

One of the crucial questions the researcher intended to find out was whether the present Vocational Education Curriculum Laboratories were adequately staffed and financed to develop materials related to the broad concept of CAREER EDUCATION. Of the fifteen State Directors who responded, ten, or two-thirds, said yes, while five, or one-third, said no. The results are given in Table 21.

An analysis of the comments made at the National Conference for Directors of Vocational Education Curriculum Laboratories, however, would indicate that few present Laboratories were indeed in a position to develop "career education" materials effectively.

Summary and Analysis of Data

Data indicate that problems in financing and staffing were the two main reasons given for a state not having

TABLE 19
NUMBER OF STATE DIRECTORS INDICATING DIFFICULTY
IN HIRING QUALIFIED VOCATIONAL EDUCATION
CURRICULUM SPECIALISTS

Difficulty	Number of states
Yes	21
No	18
Have not had to hire specialists	4
Curriculum specialists are available	5

Note.--Total number of State Directors responding = 44.

TABLE 20
NUMBER OF STATE DIRECTORS INDICATING DIFFICULTY
IN HIRING QUALIFIED AUDIOVISUAL
COMMUNICATION SPECIALISTS

Difficulty	Number of states
Yes	14
No	15
Have not had to hire specialists	9
Curriculum specialists are available	7

Note.--Total number of State Directors responding = 42.

TABLE 21
NUMBER OF STATE DIRECTORS FROM STATES WITH VOCATIONAL
EDUCATION CURRICULUM LABORATORIES INDICATING
LABORATORIES STAFFED AND FINANCED TO DEVELOP
THE BROAD CONCEPT "CAREER EDUCATION"

Response		Percent
Yes	10	67
No	5	33
Total	15	100

a Vocational Education Curriculum Laboratory.

Data indicate size of facility, staff, equipment, and budget varied considerably among the seventeen Vocational Education Curriculum Laboratories:

Size of facility	--from 800 to 14,000 square feet
Number of staff	--from 1 to 22
Inventory of equipment	--from \$2,000 to \$600,000
Annual budget	--from \$10,000 to \$300,000

Data indicate considerable duplication of the more traditional vocational curricula developed among the states. For example: forty-two, or 92 percent, of the forty-five states responding were developing vocational curriculum materials in home economics; thirty-nine, or 86 percent, in distributive education; thirty-seven, or 82 percent, in office occupations; thirty-six, or 80 percent, in agriculture; and thirty-five, or 78 percent, in trade and industry.

Data indicate a dearth of development of audiovisual materials in the vocational curriculum area. For example: only five, or 11 percent, of the forty-five states responding were developing reel cassettes; eight, or 18 percent, 16-mm films; ten, or 22 percent, audio tapes; eleven, or 24 percent, video tapes; and sixteen, or 35 percent, film strips.

Data indicate rather poor dissemination of all types of vocational curriculum materials. Of the forty-three states responding, only twenty-nine, or 67 percent, indicated widespread dissemination of vocational curriculum

materials within the state. Nationally, the dissemination statistic was a very low 12 percent.

Data indicate nearly 50 percent of the State Directors from states with Vocational Education Curriculum Laboratories expressed a need for a regional Vocational Education Curriculum Laboratory. Of the thirty-two State Directors from states without a Curriculum Laboratory, twenty-two, or 68 percent, indicated a similar need.

Data indicate nearly 100 percent of the forty-three State Directors responding favored a Vocational Education Curriculum Laboratory located in one center.

Data indicate no uniform pattern of administration of existing Vocational Education Curriculum Laboratories, although the Divisions of Vocational Education played an important role in most cases.

Data indicate that eight, or 48 percent, of the Vocational Education Curriculum Laboratories are partially funded through the sale of vocational curriculum materials.

Data indicate that ten of the fifteen State Directors from states with Vocational Education Curriculum Laboratories also allot money for the development of vocational instructional materials. Three of the ten State Directors indicated that the Director of the Vocational Education Curriculum Laboratory had no knowledge of what vocational curriculum materials were being developed outside the Laboratory. A fourth State Director did not think there was anything being done to avoid duplication of

efforts in the development of vocational curriculum materials in his state.

Data indicate that advisory committees are not involved extensively in the approval of vocational instructional material publications. Of the fourteen states reporting with Vocational Education Curriculum Laboratories, three states, or 21 percent, did not use advisory committees. Data from the nineteen states without a Vocational Education Curriculum Laboratory indicate that nine states, or 47 percent, did not use advisory committees.

Data indicate twenty-one, or 48 percent, of the forty-four State Directors responding had difficulty in hiring qualified vocational curriculum specialists for Vocational Education Curriculum Laboratories and for the state staff.

Data indicate forty, or 85 percent, of forty-seven State Directors responding expressed a need for curriculum guidelines from the Washington level in emerging and innovative areas such as: career education, job clusters, interdisciplinary curriculums, curriculums for cable TV, and modular curriculum units.

Data indicate thirty-nine, over 90 percent, of the forty-three State Directors responding expressed a need for an office on the Washington level to coordinate and disseminate vocational education curriculum materials from all agencies.

Data from Directors of Vocational Education
Curriculum Laboratories

The researcher conducted a two-day National Conference for Directors of Vocational Education Curriculum Laboratories on November 15-16, 1972, at the Skyline Inn, Washington, D.C. All states identified by the State Directors of Vocational Education as having a Vocational Education Curriculum Laboratory were represented.

The purpose of the conference was primarily to obtain, first hand, data relevant to educational and work experiences of the Laboratory Directors, priorities of job responsibilities, setting of priorities for curriculum development, curriculum materials developed, in-service training, funding patterns of laboratories, and use of advisory committees.

Qualifications of Directors of Vocational
Education Curriculum Laboratories

Tables 22 through 29 summarize the academic preparation, educational experience, specific training, and work experience of the Directors of the existing Vocational Education Curriculum Laboratories.

Knowledge and Experience Considered
Important by the Laboratory Directors

The following question was asked of the Laboratory Directors: "Disregarding your educational and/or work experience background, from your present experience, what group of experiences and estimated degree of value do you consider best qualify a candidate for your position?"

TABLE 22
NUMBER OF STATES REPORTING ON THE ACADEMIC
PREPARATION OF DIRECTORS OF VOCATIONAL
EDUCATION CURRICULUM LABORATORIES

	Major	Minor
Baccalaureate degree (17 Directors)	Business Adm. Agriculture (4)* Ind. Arts (3) Education (2) English Voc. Home Econ. B.A. in Eng. & Psy. & B.S. in Ind. Ed.	Science (2) Eng.-Soc. Studies History
Master's degree (17 Directors)	Ed. Communications Ed. Adm. (3) Art Ind. Ed. Adm. Voc. Ed. (2) Education Ind. Ed. Ind. Arts Agric. Ed. Voc. Home Econ.	Administration (3) Tech. Journalism Agric. Mechanics
Doctorate degree (5 Directors)	Tech. Ed. Ed. Research Ed. Adm. Agric. Ed. Home Econ. Ed.	Communication Arts Research

Note.--Seventeen Laboratory Directors were identified by the State Directors in the various states to attend the National Conference of Directors of Curriculum Laboratories. Since only one Director of a Laboratory could attend from each state because of budgetary constraints, several states having two or more Laboratories were represented by only one Laboratory Director.

*Numbers in parentheses indicate times item was listed by Laboratory Directors.

TABLE 23
 NUMBER OF STATES REPORTING ON EDUCATIONAL EXPERIENCES
 OF DIRECTORS OF VOCATIONAL EDUCATION
 CURRICULUM LABORATORIES

Level of education experiences	Total years of educational experience at either or both teacher and administrative levels	
	Teaching	Administration
Junior or middle school	5,7	
Secondary	1,3,5,5,8,8, 11,12,12,15, 16-1/2,17,24	5,8
Post-secondary	4,1	
University	9,8,1,1	10,23
State department		6,5,4,6

Note.--Total number of Laboratory Directors responding = 15.

TABLE 24
NUMBER OF DIRECTORS OF VOCATIONAL EDUCATION CURRICULUM
LABORATORIES WITH EXPERIENCES AT SPECIFIC
EDUCATIONAL LEVELS

Level of educational experiences	Number of directors
Junior and secondary	1
Junior, secondary, and community college	1
Junior, secondary, and community college and university	1
Secondary	6
Secondary and technical institute	1
Secondary and university	5
Post-secondary--technical institute	1

Note.--Total number of Laboratory Directors responding = 16.

TABLE 25

NUMBER OF STATES REPORTING ON VOCATIONAL EDUCATION
CURRICULUM LABORATORY EXPERIENCES OF DIRECTORS OF
VOCATIONAL EDUCATION CURRICULUM LABORATORIES

Positions	Years of experience
Coordinator	4,4,8,3
Director	2,15,6,6,1,6,3,17, 2 weeks
Director-coordinator	3
Assistant director	5,2
Supervisor	1,1,1
Other (materials preparation)	1-1/2

Note.--Total number of Laboratory Directors responding = 14.

TABLE 26
NUMBER OF DIRECTORS OF VOCATIONAL EDUCATION
CURRICULUM LABORATORIES WITH EXPERIENCES
IN VARIOUS POSITIONS

Positions	Number of directors
Coordinator	3
Director-coordinator	1
Director	7
Director-assistant director-supervisor	1
Assistant director-supervisor	1
Supervisor	1

Note.--Total number of Laboratory Directors responding = 14.

TABLE 27

NUMBER OF STATES REPORTING ON SPECIALIZED OR
IN-DEPTH TRAINING IN CURRICULUM DEVELOPMENT
ACQUIRED BY DIRECTORS OF VOCATIONAL
EDUCATION CURRICULUM LABORATORIES

Specialized training	Directors indicating curriculum training in one, two, or three of the following:
Baccalaureate, master, or doctorate programs	8
Special curriculum development programs	10
Special in-service or pre- service programs	7
Other: No special curriculum training in any area	1

Note.--Total number of Laboratory Directors responding = 15.

TABLE 28

NUMBER OF DIRECTORS OF VOCATIONAL EDUCATION CURRICULUM
LABORATORIES INDICATING TYPES OF CURRICULUM TRAINING

Types of curriculum training	Number of directors
Baccalaureate, master, doctorate level (only)	3
Special curriculum development seminars (only)	3
Special curriculum development seminars and in-service or pre-service programs (only)	2
All three of the above	5
No special curriculum development training	1

Note.--Total number of Laboratory Directors responding = 14.

TABLE 29

NUMBER OF STATES REPORTING ON WORK EXPERIENCES OF DIRECTORS
OF VOCATIONAL EDUCATION CURRICULUM LABORATORIES

Work experiences
Watch and instrument repair
Farm manager and owner
General farming (3)*
Manufacturers' sales representative
Retailing
Agriculture--U.S. government
Technical illustration
Technical writing
Building trades
Carpentry--bricklaying
Building contractor
Sales
Carpentry
Lawn mower sales and service (owner)
Commercial photography
Grocery store, hardware, and service station (owner)
Commercial photography
Grocery store, hardware, and service station (owner)
Electrical
Electrical contractor
Radio--TV
Service station manager (owner)
Grocery store

Note.--Total number of Laboratory Directors responding = 14.

*Numbers in parentheses indicate times item was listed by Laboratory Directors.

A five-point scale was introduced in soliciting their answers, with "5" indicating most valuable and "1" least valuable. Table 30 presents the results.

It is seen from Table 30 that the major responses listed in priority order are:

- Teaching vocational courses
- Secondary school curriculum development
- Administration and/or supervision
- Major or minor in curriculum development
- Trade and/or industrial work

On the other hand, those experiences considered as least important are:

- Knowledgeable in operating reproduction equipment
- Knowledgeable in making audiovisual tapes
- Knowledgeable in the use of cable TV

It should be noted that there were other responses in addition to those listed in Table 30. These included:

Curriculum center concerned with program direction management, not materials production and sales.

Experience and knowledge would vary according to objective or instruction for which materials are being developed.

The development of material for occupational education cannot be done on the same format or basis as that used in academic areas.

It does make a great difference as to the level for which the curriculum materials are being developed.

Priorities of Job Responsibilities

The Laboratory Directors were requested to give a priority rating to a list of selected job responsibilities.

TABLE 30

RESPONSES FROM DIRECTORS OF VOCATIONAL EDUCATION CURRICULUM
LABORATORIES REGARDING EXPERIENCES THAT BEST QUALIFY
A CANDIDATE FOR THE POSITION OF DIRECTOR

Experiences	Number respond- ing	Number indicating experience and value of each that best qualify a candidate				
		"5"	"4"	"3"	"2"	"1"
Administration and/or super- vision	15	5	2	6	1	1
Teaching (vocational courses)	15	8	4	-	1	2
Teaching (academic courses)	13	3	3	1	4	2
Trade and/or industrial work	15	1	8	5	-	1
Major or minor in curriculum development	14	5	1	4	2	2
Knowledgeable in operating various kinds of reproduction equipment	14	1	2	4	3	4
Knowledgeable in making trans- parencies, slides, loop film, etc.	14	3	1	4	3	3
Knowledgeable in making audio- visual tapes	13	1	1	5	4	2
Knowledgeable in the use of cable TV	14	1	2	4	3	4
Knowledgeable in:						
Elementary curriculum devel- opment	14	1	4	4	-	5
Junior or middle school cur- riculum development	13	2	4	5	2	-
Secondary school curriculum development	14	6	4	1	2	1
Post-secondary curriculum development	13	3	3	5	1	1
Adult curriculum development	13	2	6	4	-	1
Career education K through adult	13	2	6	4	-	1

Equal priority to two or more responsibilities was permitted. The responses are given in Table 31.

There were two other responsibilities to which some of the Laboratory Directors thought they should give leadership: (1) training teachers from LEAs in curriculum development, and (2) training specialists who work in the Laboratory.

Priorities of Preparation
of Curriculum Materials

Fifteen of the seventeen Laboratory Directors reported that priorities were set with respect to curriculum materials produced in their Laboratories. When asked by whom were priorities set, their answers varied from one state to another. Each of the following paragraphs represents a state's response:

Jointly among curriculum bureaus, instructional bureaus, budget.

Advisory committees in subject matter areas and state supervisory staff.

State staff, local teachers, curriculum coordinating unit staff, representatives of businesses, industries, agriculture, teacher educators and craftsmen.

Curriculum consultants.

Curriculum lab director and Vocational Division staff within the Department of Education.

State board for vocational education and the Division of Vocational Education.

State Director of Vocational Education.

University and state staff members in the various vocational areas--often consider recommendations of teacher advisory committees.

TABLE 31
PRIORITIES OF SELECTED JOB RESPONSIBILITIES OF DIRECTORS
OF VOCATIONAL EDUCATION CURRICULUM LABORATORIES

Priorities	Number responding	Number indicating priorities of job responsibilities from 1 (top) through 9								
		"1"	"2"	"3"	"4"	"5"	"6"	"7"	"8"	"9"
<u>Giving leadership to:</u>										
Development of new and innovative vocational curriculums	14	5	6	1	1	-	1	-	-	-
Dissemination of curriculum materials	14	6	3	3	1	-	1	-	-	-
Coordination of the development of vocational curriculum materials	15	10	2	1	2	-	-	-	-	-
Development of interdisciplinary curriculums	14	4	3	2	1	1	2	1	-	-
Development of vocational curriculums using multi-media materials	14	2	4	4	1	2	-	-	1	-
Development of vocational curriculums using audiovisual materials	13	2	4	2	3	-	-	1	1	-
Development of curriculums for various job clusters	14	1	4	6	-	3	-	-	-	-
Development of modular vocational curriculum units	13	1	4	3	3	1	1	-	-	-
Development of curriculums for use on cable TV	9	-	1	1	1	3	-	1	-	2

Division of Vocational Education, state board, advisory committee.

We try to look to our teachers. They are surveyed once a year in addition to a continuing personal contact throughout the year.

By a state group representing various occupational areas.

Assistant state director of occupational education.

State supervisors in various divisions--trade and industry, distributive education, agriculture, etc.

Director of Curriculum Laboratory.

Directors in the Division of Vocational Education, teachers and personnel in the Instructional Materials Laboratory.

Comments: (each paragraph represents a state's response)

Vocational school directors help determine this priority. We have \$3,000 each year to pay instructors (\$6.00 per hour) to upgrade or write new material. A craft advisory committee usually determines what goal is to be met. The instructor, with the aid of myself and a curriculum specialist, attempt to accomplish this goal.

The curriculum center sets priorities based on these requests [from state supervisors in various divisions].

Funds for curriculum development are provided by the state only for new programs. Individualized courses of studies and career education in terms of behavioral objectives are of the highest priority.

Advisory committees from business and industry are also used as a sounding board in setting priorities.

This past year, we have been "forced" into budgeting on a state priority basis. This is now incorporated as a procedure for all forthcoming fiscal years.

Each curriculum center has its own state advisory group or committee--recommendations are made to the center's director with a copy to the state director for vocational education and the state advisory council for technical-vocational education.

Priorities are established on a demand basis with new programs having highest priorities.

Some projects are up to the lab director. Others, of more vital concern to the state department, involve appropriate supervisors.

The curriculum consultant in conjunction with the entire bureau's staff establish priorities. The curriculum consultant makes the final decision.

This varies from service area to service area and by current curriculum needs. In the service areas a committee representing teachers, state supervisory staff and teacher educators usually meet with our staff to develop priorities. In the case of new and developing programs, the state supervisory staff usually takes the leadership in priority development with our center. As these programs become more concrete, the procedure used in the services take form.

Major Areas in Curriculum Development Given Impetus

The following data were obtained from the Laboratory Directors regarding impetus given to some of the major areas of curriculum development during the past twelve months. The data indicate an extensive impetus in a variety of new curriculum areas on one hand with a remarkable lack of duplication in these areas on the other. The numbers in parentheses refer to the number of states giving impetus to same area.

Agriculture

Vocational agriculture (3)
Vocational agriculture II (10th grade)
Off farm agriculture areas

Adult Education

Adult education curriculums (2)

Apprenticeship

Electrical--instructors' manual--1 to 4 years
 Electrical--students' manual--1 to 4 years

Building Construction

Building construction
 Building trades job and assignment sheets (2)
 General construction

Career Education

Developing related materials in mathematics, English,
 and social studies for vocational clusters used in
 career education
 Project careers
 Research and information dissemination system for
 career education--encompasses the broad aspect of
 career development from K-lifetime
 Career education (2)
 Academic curriculum guides for coordinated vocational-
 academic education
 Career education at junior high levels

Modular Curriculum Development

Modular development for individualization of instruc-
 tion

Office Occupations

Accounting, unit III
 Office and business teachers' handbook
 Office and business curriculum (2)
 Bulletin board ideas for office and business education
 Office occupations (3)
 Office occupations (beginning)
 Data processing
 Data processing (beginning)
 Initiated study involving individualization of instruc-
 tion

Public

Public relations guide

Special Needs--Disadvantaged and Handicapped

Math series
 Communications series
 English grammar series

Total programs for disadvantaged
 Beginning a project to develop a resource center for
 disadvantaged and handicapped
 Suggestions on teaching techniques for disadvantaged
 and handicapped in agriculture
 Orientation and exploration--disadvantaged and handi-
 capped

Technical Education

Technical education curriculums

Trade and Industrial Education

Trade and industrial education (4)
 Auto mechanics (7)
 Tests for auto mechanics
 Post-secondary vocational industrial drafting
 Secondary vocational industrial drafting
 Post-secondary automotive mechanics
 Welding (2)
 Machine trades (2)
 Sheet metal
 Air conditioning and refrigeration (3)
 Drafting
 T & I facilities guide
 Auto mechanic facility guide
 Drafting facility guide
 Graphic arts
 Machine drafting

Cluster Concept

Cluster concept in five identified areas:
 Applied biological and agriculture
 Health occupations
 Personal and public service
 Industrial orientation
 Business marketing and management
 USOE contract--to develop cluster curriculum for public
 service occupations

Competency Tests

Competency tests (cooperating with the National Testing
 Programs in T & I)

Cooperative Education

Cooperative vocational education coordinators' handbook
 Total cooperative education programs (commonalities)

Dissemination

Most of our materials are put in a packet form that consists of a curriculum guide, student materials, or suggestions for use of certain student materials, visuals which might consist of completed transparencies, slides, audio tapes, masters for student handouts, facility and equipment needs, and in some cases testing procedures.

Distributive Education

Distributive education (4)
 Distributive education (beginning)
 Distributive education coordinators' handbook
 Sales and marketing handbook (project method)
 Using the cash register
 Instructional guides in advertising

Drugs

Drugs--curriculum for short courses

Environmental Science

Environmental sciences

Evaluation

Intending to computerize the evaluation of curricula in order to tie curriculum to cost data

Health Occupations

Health occupations (7)
 Physical therapy
 Dental assistant
 Practical nursing
 Medical records
 Nurse assistant
 Advanced nurse assistant
 LPN teachers' guide (2)
 Core health occupations

Home Economics

Clothing construction
 Cosmetology (3)
 Cosmetology facility guides
 Early childhood specialist
 Food service
 Home and community service (cluster) (9th grade)
 Home economics (3)

Home Economics and Consumer Education

Home economics and consumer education (3)
Consumer education for all vocational areas
Teaching learning packets

Industrial Arts

Industrial arts

Instructors Training Manuals

Short courses for extension instructors

Interdisciplinary Curriculum

Interdisciplinary projects

Introduction to Vocations (7-8-9)

Introduction to vocations
Occupational orientation (8-9)
General construction trades (cluster) (9th grade)
General mechanical repair (cluster) (9th grade)
Career exploration teachers guide
Pre-vocational materials in 17 areas
Orientation and exploration--agriculture

K-6 Grades

Technology for children
Career education for K-6

Leadership

Leadership materials

Marine Occupations

Marine electronics
Communications and navigational equipment
Scientific instruments
Fisheries occupations
Catfish farming
Machine tool and die
Auto body repair
Test questions for electrical trades

Visuals

Transparencies--production
16-mm films on loan basis (2100 films--150 loaned per week)

Specialized transparency sets on loan basis (primarily for cooperative vocational education programs)
 Intending to build TV (video tape) as teaching aid-- emphasis on visual supplements to instructional units
 Visuals for seventeen prevocational areas
 Visuals for agriculture areas
 Transparencies for distributive education
 Transparencies for office occupations--record keeping materials and new procedures for teaching vocational filing
 Slides, tapes, and transparencies for T & I areas
 Slides, tapes, and transparencies for home economics areas
 Transparencies for welding
 Transparencies for cosmetology
 Transparencies keyed to written materials
 2" x 2" slides

Transparencies for VICA

Special efforts are now underway to develop a series of self instructional skill units to prepare students for the very first job entry experiences in food service, sales, and graphics. These are on filmstrips with audio cassettes and whatever worksheets are required. These are set up for specific jobs and machine skills. The students would perform the skill (for example, set up a table properly for food service) as they go through the filmstrip and tape demonstration.

Miscellaneous

Identifying collected data and cataloging what is being done in all districts in the state in:

- Course outlines written in performance objectives
- Individualized instruction (learning packets) for specific occupations
- Cluster of occupations

These data will be presented to the task force on career education which is designing a plan for career education to present to the State Board. The extent of the curriculum center will depend on the plan.

Materials Produced in the Vocational Education Curriculum Laboratories

Table 32 provides the data for the curriculum materials produced in the Laboratories in the various states.

It is noticeable that the data indicate considerable

TABLE 32

NUMBER OF STATES REPORTING ON MATERIALS PRODUCED IN THE
VOCATIONAL EDUCATION CURRICULUM LABORATORIES

Materials developed	Number responding
Curriculum guides	
Agriculture	16
Distributive education	15 (1 being developed)
Office occupations	14 (1 being developed)
Technical	11
Trade and industry	17
Health	16
Home economics	14
Industrial arts	8
Elementary occupational orientation	5 (1 under study)
Apprentice trades	15
Vocational guidance	15 (1 being developed)
Student manuals	15 (1 some)
Student workbooks	11 (1 some)
Teacher handbooks	14 (1 some)
Overhead transparencies	11
Slides	8
Film strips	5
Audio tapes	3
Video tapes	1 (1 being developed)
Reel cassettes	1
16-mm films	5
8-mm loop films	2
Posters	6
Newsletters	10
Other:	
School catalogs, office forms, and other printed material needed to operate school	
Tachnamated transparencies	
Investigating holograms	
Career Education Journal	

duplication in curriculum materials in traditional occupational areas and little being done in audiovisual media.

Data in column one of Table 3 differs slightly from similar data in Table 32. This is due in part to familiarity by Laboratory Directors of curriculum developed.

Detailed information was also sought on the specific materials produced during the previous twelve months in the Laboratories in the various states. It was found that a variety of curriculum materials had been produced in a number of new areas and that there was very little duplication of curriculum materials in these areas. The areas in which curriculum materials had repeatedly been produced during the twelve-month period previous to this study are listed after Table 32.

States reporting curriculum materials produced during the twelve months previous to this study follow. The numbers in parentheses indicate states producing same material.

Agriculture

- Agricultural guides (2)
- Agriculture--ignition system repair--self-instruction manual
- Horticulture landscaping
- Agricultural shop safety (student manuals, teachers' guides)
- Teachers' demonstration guide in electricity
- Developed experimental materials for prototype programs
- Vocational agriculture curriculums
- Units in conservation and ecology

Adult

Curriculums were developed for adults

Apprenticeship Programs

Building trades
 Upgrading some specific apprenticeship areas
 Instructors' manual--electrical--1 to 4 years
 Students' manual--electrical--1 to 4 years

Building Construction

Building construction guide
 Building maintenance (teachers' guide)
 Carpentry blueprint interpretation

Building Trades

Building trades (3)

Career Education

Career education models--elementary education (3)
 One school district has produced a comprehensive plan
 to develop curriculum from K-12 to be used in occupational education and in comprehensive high schools
 Career exploration teachers' guide
 Career education--K-6
 Career development--the involved commitment
 Career development--job placement

Competency Tests

Competency tests in T & I

Cooperative Education

Home economics cooperative education for youth and adults
 Guidelines for vocational cooperative education

Disadvantaged

Curriculums were developed for disadvantaged
 One school district has developed a curriculum for the mentally retarded
 Disadvantaged programs--distributive education
 Assisting businesses in the disadvantaged areas

Distributive Education

Over twenty sets of teacher guides (store security, DECA, elaborate filing systems)
 Several different content units within distributive education--display, advertising, sales

Developed two experimental materials for prototype programs

Distributive education guides (2)

D.E. coordinators' handbook

Sales and marketing handbook

Using the cash register

D.E. guide for administrators

Drugs

Short courses

Evaluation

Home Economics evaluation guide

Health

Physical therapy aid

Health occupations (3)

Nurse assistant

LPN teachers' guide (2)

Physical therapy

Dental assistant

Medical records

Home Economics

Curriculum guide for total homemaking program (2)

Food service

Clothing instruction

Cosmetology

Early childhood specialist

Food services (for the deaf and slow learner)

Home Economics and Consumer Education

Supplementary materials for gainful employment programs

Areas in consumer and homemaking--two titles

Learning to sew (slow learner and deaf)

Teaching learning packets in consumer education

Introduction to Vocations (7-8-9)

Pre-vocational--eighteen titles

Cluster--general construction trades (9th)

Cluster--general mechanical repair (9th)

Cluster--home and community service (9th)

Occupational orientation (8-9)

Exploratory drafting

Marine Occupations

Catfish farming
 Marine electronics
 Communications and navigational equipment
 Scientific instruments
 Fisheries occupations

Military Curriculum

Prepared report "Utilization of Military Information in
 Public School Vocation Education Programs"

Miscellaneous

Our work plans for the current year identifies thirty-four different projects for development or attention. These are for seven instructional areas plus some interdisciplinary projects. Completion or release is governed by many factors including staff time and delivery of manuscript materials from consultants. Agreement or approval of materials is sometimes a problem prior to printing and release. Priorities are established each year and adjusted according to conditions.

One curriculum laboratory develops materials for T & I and office occupations only. We reproduce materials for the other five divisions of vocational education. This material is sent to us ready to photograph and run.

Office Occupations

Rotation of office practice
 Developed four experimental materials for prototype programs
 Office and business teachers' handbook
 Office and business curriculums (2)
 Bulletin board ideas for office and business education
 Office machines (for deaf and slow learners)
 Introduction to data processing
 Beginning computer concepts

Special Needs

Math series
 Communications series

Technical Education

Mechanical technology

Trades and Industry

- Automotive areas (5)
- Graphic arts
- Machine drafting
- Machine tool and die
- Air conditioning and refrigeration
- Auto body repair
- Drafting
- Airframe mechanics
- Locating and securing a job--student manual
- Several areas of industrial education
- School shop plans and equipment lists
- Welding (2)
- Post-secondary vocational industrial drafting
- Secondary vocational industrial drafting
- Post-secondary automotive mechanics
- Basic related math for vocational education
- Machine shop (advanced)
- Diesel mechanics

Visuals

- 107 transparencies--distributive education
- 16-mm film--occupational orientation
- Agriculture
 - Slide set in horticulture
 - Transparencies--agriculture shop safety
 - Overhead transparencies in electricity
- Building construction transparencies
- Orientation to textiles--slide set
- Automotive mechanics' curriculum transparencies
- Twenty sets of distributive education guides accompanied by transparencies, slides, and tapes
- Transparencies on health occupations
- 16-mm films--loan basis
- Specialized transparencies--loan basis
- Guide for use of transparencies in business education

VIM (Vocational Instructional Materials)

- All the bureaus (agriculture, industrial, homemaking, business) continuously develop curriculum materials independent of the career education curriculum center

Youth Clubs

- Suggested DECA projects for inner city schools

The Five Aspects in the Development
of Curriculum Guides

All of the seventeen Laboratory Directors reported the inclusion of the following five aspects in development of curriculum guides:

- a. Content--(subject matter)
- b. Objectives--(behavioral or performance)
- c. Learning experience--(built-in learning experiences to assist in obtaining behavioral or performance objectives)
- d. Teaching aids--(visual and/or audiovisual)
- e. Evaluation

However, an evaluation of the curriculum materials produced by the various states indicates considerable variance in the inclusion of all five aspects in the development of curriculum guides.

The comments made by the directors were worth noticing. These are recorded as follows (each paragraph represents a state's response):

In addition to the above, we are developing student materials such as information sheets, assignment sheets, and job sheets that are used as hand-out sheets to meet objectives.

Project "careers" became operational in August 1971 and is concerned with the behavioral objective aspects of curriculum development. Project CEDIS (Career Education Document Information System) also operational as of a week ago will attempt to provide school systems contemplating the inclusion of career education into their overall programs with curriculum guides, space requirements, teacher requirements, equipment, and cost for help in preparing their initial budget.

Each of the seven instructional areas the curriculum bureau works with are at a different place in the acceptance of the five above items. There is also a

two-edged responsibility of changing the attitudes and behaviors of temporary curriculum personnel and the staff of the occupational instructional staff.

Aspects b and e are not done as well as we would like. We have three materials laboratories. This report represents the input from distributive education only. The other two are agriculture and trade, and industrial education.

The total "learning" concept involves the integration of the development of curriculum materials and all pre-service and in-service activities.

They are all vitally necessary in developing a useful curriculum guide. The validity of material would be subject to question if these were not all included.

Very little is being done relative to evaluation in all of the vocational areas. Certain areas (home economics, health) are doing a great deal in regard to suggesting to teachers ways to evaluate, by teachers and students, the materials developed.

A complete guide includes (we term this a "curriculum manual")

- I. Philosophy
 - Objectives to point out the What? Why? Who? How?
- II. Instructional program
 - Content
 - Instructional materials
- III. Staffing
- IV. Equipment
 - Types, quality, quantity
- V. Facilities
 - Location
- VI. Appendages
 - Locale, evaluation, accreditation

We are concerned from beginning of manuscript to delivery of final instructional materials.

We are in the process (for the past year) of establishing a Career Education Curriculum Center. To date we have sent out questionnaires to determine what has been done in all of the school districts in the state. We are now collecting and cataloging this material. We

have a task force on career education whose task it is to design a framework for career education for the State which will be adapted by the State Board of Education for implementation. The results of this study will determine the final direction and extent of the curriculum center because it must be coordinated with the total state effort.

Making Use of Curriculum
Materials from Other States

One of the survey questions asked of the Laboratory Directors was: "Do you obtain, adapt, and make available curriculum materials from other states?" Fifteen of the seventeen Laboratory Directors answered "yes," and reported materials were obtained from other states and adopted for use, if required. One of the Directors indicated that the use of materials from other states was rather minimal. Another Director reported that needed materials were purchased, rather than developed.

The individual comments made by those who answered "yes" are listed below. Comments (each paragraph is a state's response):

Yes--Exchange agreements encouraged. ERIC major source of information available. More concerned with information during development than after release.

Yes--No extra money.

Yes--Review materials, inform teachers about availability of this material. When it applies, adapt for use.

Yes--We spend approximately \$30,000 per year on agriculture materials from the Agricultural Engineers Agency in Athens, Georgia.

Yes--Very small.

Yes--Very minimum at this point.

Yes--Limited to distribution of listings from other states and adapting non-copyrighted materials for state use.

Yes--Consultants continually sift and apply information for local educational agencies in the state.

Yes--We continually evaluate materials from other states. When there is a need and some other state has something we can use, we purchase rather than develop.

Yes--It is the responsibility of each specialist to identify those materials in his area that have been developed by other states or agencies. This is sometimes difficult to accomplish, but these materials are then reviewed and evaluated in order to determine their application.

Yes--A listing of materials only. Sample copies of some materials filed for review in the curriculum lab.

Yes--Only in small way.

Yes--Very small presently.

Yes--About one-fourth of our total program is reprints from other states.

Forwarding Curriculum Materials to ERIC

When the Laboratory Directors were asked whether the curriculum materials produced in their states were forwarded to ERIC, fifteen of them answered "yes," while two said "no." In the group of those who answered "yes," there were three Directors who admitted that their effort in forwarding materials to ERIC was not too extensive: one said his state forwarded materials only in part; another said his state "sometimes" forwarded materials to ERIC; still another indicated his state did not forward all of the materials to ERIC. Among the two Directors who answered "no" to the question, one added that the present efforts

of his state were directed toward using ERIC system for dissemination.

In-Service Training for the
Introduction of New Materials

Responding to the question "Do you conduct in-service training sessions for the introduction of new materials?" thirteen Laboratory Directors said "yes," while four said "no." The individual comments are as follows (each paragraph represents a state's response):

Yes--No separate budget for this purpose.

Yes--No special budget included.

Yes--\$600,000 for professional development--part of the \$980,000 budget for Professional and Curriculum Development.

No--Handled by service areas--involves vocational education monies.

No--There is money in the budget too for in-service training.

Yes--Cost supported by state. Federal funds estimated for fiscal year 1972 is \$350,000.

Yes--No extra money.

Yes--Depends on instructional area. Funds allocated to Bureau of In-Service Education. Curriculum and Instruction involved but not responsible.

Yes--No special budget.

Yes--We hold diffusion, in-service, conference, workshop type meetings in conjunction with the State Division of Vocational Education.

Funding for Vocational
Curriculum Laboratories

The various sources of funding, as reported by the Laboratory Directors, are shown in Table 33.

TABLE 33

NUMBER OF STATES REPORTING VARIOUS SOURCES OF FUNDING FOR
THEIR VOCATIONAL EDUCATION CURRICULUM LABORATORY

Sources of funding	Number of states
State funds	16
Federal funds	13
University funds	7
Area vocational school funds	1
Sale of materials	8
Other	3

Comments:

Other--funds generated as "in kind" from contractual agencies.

Other--special projects funded by the state.

Other--organizations that are representative of certain industries.

Funded by the Bureau of Vocational Education. The University furnishes facilities and housing. Some federal funds are used for contract work.

University furnishes all overhead costs such as utilities, maintenance, construction, management costs.

As to the detailed methods of funding, the reports are recorded in Table 34.

More than half of the states permitted the sale of curriculum materials both within and outside of the state. The Directors' responses are given in Table 35.

It was found that the amount of money from annual sales of curriculum materials varied considerably among the states. Of the seventeen states, eight definitely reported that funds from the sale of materials were being used for the operation of the Laboratory.

The estimated cash amounts from the sale of curriculum materials are listed in Table 36.

Following are more detailed records of the Laboratory Directors' descriptions in connection with the sale of curriculum materials. Each paragraph represents a state's response:

\$2,500--From out-of-state sales only, usually on single copy basis. All state programs furnish materials at no cost.

\$25,000--Mostly from student material sales within the state.

\$3,000--All material is furnished free of charge to all 32 area vocational schools. High schools are considered as out-of-state purchases and are treated accordingly. They can purchase one copy only and are given the privilege to reproduce our material for their needs.

\$15,000 per year.

None--State law will not permit sale of materials because of fiscal policies.

Don't know.

\$483,000--Fiscal year 1971.

TABLE 34
 NUMBER OF CURRICULUM LABORATORIES FINANCED
 BY VARIOUS SOURCES OF FUNDING

Sources of funding	Number of curriculum laboratories
State funds (only)	2
State--sales	1
State--federal	3
State--federal--sales	1
State--federal--sales--other	1
State--federal--sales--area vocational school	1
State--university--sales	1
State--university--federal	3
State--university--federal--other	1
State--university--federal--sales	2
Federal--sales	1
Total	17

TABLE 35
 NUMBFR OF STATES PERMITTING THE SALE
 OF CURRICULUM MATERIALS

Sales of curriculum materials	Number of states		
	Yes	No	Total
Within state	10	7	17
Outside of state	11	6	17

Comments (each paragraph represents a state's response):

Checked "no" in both categories above--single copies are available free to out-of-state requests.

Checked "yes" in both categories above--we will send only one copy of anything out of state. We operate on cost recovery and are mainly concerned with our own state's needs.

Single copies to educational institutions outside of state. All materials submitted to ERIC to help satisfy out-of-state requests. Checked "yes" in both categories above.

TABLE 36
NUMBER OF STATES REPORTING ON FUNDS DERIVED FROM
THE SALE OF CURRICULUM MATERIALS

Amount of annual sale	Number of states
\$2,500-\$5,000	4
\$15,000	1
\$25,000-\$35,000	2
\$483,000	1
Sales, money goes to State Treasury	1
Do not know amount of sales	2
Not permitted to sell curriculum materials	6

Note.--Total number of Laboratory Directors responding = 17.

\$35,000--State budget covers salaries only. Materials, hourly personnel, and capital equipment are financed from special state grants and sales of materials. (rotary fund)

\$4,000 per year--All from materials sold outside of the state.

\$5,000 per year.

Funds from any sales go into the general state fund. None are returned to the curriculum operation. Prices are based on printing costs. Does not reflect development costs.

Budget for Operation of the Vocational Education Curriculum Laboratory

Fourteen of the seventeen states reported estimated budgets for the operation of Curriculum Laboratories. The reported budgets are listed in Table 37. Budget estimates are higher than those reported by State Directors because the figure includes budgets for diffusion of vocational curriculum materials through in-service programs.

It was interesting to notice that the estimated annual budget reported by fourteen of the seventeen Laboratory Directors ranged from as low as \$15,000 to as high as \$980,000, the median being \$164,000. Three Directors did not know their annual estimated budget.

Advisory Committees

Two questions were asked of the Laboratory Directors with respect to advisory committees. (1) Is there an advisory committee to the director of the lab concerning the operations of the laboratory, priorities of curriculum materials to be developed, and development of curriculum

TABLE 37
ESTIMATED BUDGET FOR OPERATION OF THE
CURRICULUM LABORATORY

Estimated budget
\$190,000
\$140,000
\$300,000
\$45,000
\$980,000
\$15,000--Excludes salaries. Just starting lab.
\$700,000
\$312,000
\$160,000
\$233,000
\$95,000
\$168,000
\$125,000
\$125,000

Note.--Total number of Laboratory Directors responding = 14.

guides? (2) Is there an advisory committee for each curriculum guide or cluster of guides?

The responses to these questions are listed in Tables 38 and 39, respectively, each being attached with the Directors' comments.

Anticipated Restructuring of the Vocational Education Curriculum Laboratories

One of the most important questions the researcher asked of the Laboratory Directors was whether they were anticipating a restructure of their Laboratories in order to meet new needs, such as the needs in the areas of career education. The responses together with comments from the Directors are given in Table 40.

TABLE 38

NUMBER OF STATES REPORTING THE USE OF AN ADVISORY
COMMITTEE TO THE DIRECTOR OF THE LABORATORY

Kinds of advisory committees	Yes	No
Laboratory operations	5	10
Priorities	10	5
All curriculum guides	9	6

Note.--Total number of Laboratory Directors responding = 15.

Comments (each paragraph represents a state's response):

Committees work with university and state staff members in specific vocational areas [this comment was made by a director who checked "no" above].

If one can call the state staff personnel an "advisory committee" [this statement was made by a director who checked "yes" above].

TABLE 39

NUMBER OF STATES INDICATING THE USE OF AN ADVISORY
COMMITTEE FOR EACH CURRICULUM GUIDE
OR CLUSTER OF GUIDES

Use of advisory committee for each curriculum guide	
Yes	No
12	4

Note: Total number of Laboratory Directors responding = 16.

Comments (each paragraph represents a state's response):

Curriculum committees are made up of vocational teachers. All curriculum materials are planned and reviewed by these committees. Twenty-seven curriculum committee meetings were held during the past year. Business and industrial committees or consultants are used both in planning and validating curriculum materials when possible.

The university is becoming involved in the development of behavioral objectives and is in the process of selecting three experimental schools to validate its findings in curriculum development.

All materials developed are constantly scrutinized by advisory personnel. These groups include: (1) instructional personnel, (2) industry and business persons, (3) state staff, and (4) university personnel.

We are not at that stage yet (just starting a curriculum lab). We always use advisory committees and will appoint an appropriate committee when the time comes. All advisory committees in the department of education were abolished July 1, 1971. New advisory committees will be established if they can be justified (some have already been reestablished).

Checked "no"--advisory committee is an overall committee which comments and advises on all aspects. It does not concern itself with validity of producing a specific project.

(continued)

TABLE 39 (continued)

We feel the validity of the curriculum material would be open to serious questioning if an advisory committee was not utilized in the development stages.

Each guide has a teacher committee and an authentication (technical) advisory committee.

Checked "no"--in trade and industrial education and in health occupations committees are used.

TABLE 40

NUMBER OF STATES REPORTING ON THE ANTICIPATED RESTRUCTURING
OF THEIR VOCATIONAL EDUCATION CURRICULUM LABORATORY
WITHIN THE NEXT TWENTY-FOUR MONTHS

Time span	Yes	No
12 months	10	7
24 months	4	7

Note.--Total number of Laboratory Directors responding = 17.

Comments (each paragraph represents a state's response):

No--Possibly more work on career education.

Yes--Department of Occupational Education is being strengthened and new staff added. This in turn will have an effect on present operations.

Yes--A proposal is now being prepared to completely reorganize and improve the curriculum efforts of the state. This proposal is the result of a state-wide institutional conference for the purpose of giving proper direction to planning and development of curriculum. Briefly, the proposal contains the following points: closer coordination of effort; establish priorities, both short and long range; establish advisory committees; and add sufficient staff to accomplish these recommendations.

No--We need to put greater emphasis on the development of behavioral objectives and their application to units. Also, we are currently in a ten-state consortium for individualized instruction in distributive education. This project could have far reaching implications for us possibly changing the direction of our operation.

Yes--Expand the role and function of the existing Materials Resource Center to fulfill the functions set forth in my report to this conference.

Yes--Anticipate development of true curriculum laboratory instead of present dispersed operations.

(continued)

TABLE 40 (continued)

Yes--We are in the process of setting up a completely different operation from what we have had in the past. The final form will depend on the framework for career education recommended to and adopted by the State Board of Education.

Yes--Priority No. 3 established for the 1972-75 year by the State Board for Vocational Education is a materials development system. This concept provides for only one major university to become the central coordinating center for publishing and distributing all instructional materials with other centers continuing to develop and prepare materials. A new staff position, Vocational Curriculum Coordinator, assigned to the office of the State Director, to be filled by December 1, 1971.

Yes--Unknown at this time.

Yes--Increase of space and equipment. Addition of audiovisual competency (TV--specifically).

Yes--Under a planned procedure, but possibly expedited by state fiscal crisis, there is anticipated a major department reorganization. There will be some reorganization of the curriculum function. The last major reorganization in 1964 created the Curriculum Development Center with all curriculum activities for all levels and services coordinated in one center.

No--CCU and RCU were combined two years ago. Additional staff will be recruited. CCU-RCU is located on a university campus, sponsored by the State Division of Vocational Education and closely coordinated through the office of the Coordinator of Research, Curriculum, and Teacher Education on the State Divisional staff.

Summary and Analysis of Data

Data indicate little similarity in educational preparation of the seventeen Directors of Vocational Education Curriculum Laboratories. Of the seventeen Directors with a master's degree, three majored in educational administration and two in vocational education. There was no similarity in educational preparation at the doctorate level.

Data indicate some similarity in educational experiences of the seventeen Directors. Six Directors, or 35 percent, had secondary teaching and/or administrative experiences. Five Directors, or 29 percent, had secondary and university teaching and/or administrative experiences.

Data indicate seven of fourteen Directors did not have previous Vocational Education Curriculum Laboratory experiences. Tenure as Directors ranged from two weeks to seventeen years.

Data indicate Laboratory Directors had little similarity of specialized preparation in curriculum development. Only five Directors had training at the collegiate level, plus special curriculum development seminars.

Data indicate Laboratory Directors consider experiences that best qualify a candidate for the position of Director of a Vocational Education Curriculum Laboratory to be in priority order: teaching vocational courses, secondary school curriculum development, administration and/or supervision, major or minor in curriculum development, and

trade and/or industrial work.

Data indicate Directors consider experiences of least importance to qualify a candidate for the position of Director of a Vocational Education Curriculum Laboratory to be: knowledgeable in operating reproductive equipment, making audiovisual tapes, and use of cable TV.

Data indicate major job priorities of Laboratory Directors to be in priority order: coordinate the development of vocational curriculum materials, development of new and innovative vocational curriculums, dissemination of curriculum materials, development of interdisciplinary curriculums.

Data indicate the lowest job priorities of Directors to be: development of vocational curriculums for use on cable TV and development of vocational curriculums using audiovisual materials.

Data indicate, in the majority of cases, state staff were involved in setting priorities with respect to curriculum materials developed. Three of seventeen states indicated advisory committees were used. One state indicated priorities were set by the State Director of Vocational Education and another by the Director of the Vocational Education Curriculum Laboratory.

Data indicate an extensive impetus in a variety of new curriculum areas being developed during the past twelve months with a remarkable lack of duplication.

Data indicate extensive duplication among the

seventeen Laboratories in some of the more traditional vocational curriculums. For example, 100 percent of the Laboratories were developing curriculum materials in trade and industry, 94 percent in agriculture, 94 percent in health, 88 percent in distributive education, 82 percent in home economics, and 82 percent in office occupations. Curriculum materials in elementary occupational orientation were being developed by five, or 30 percent, of the Laboratories.

Data indicate all seventeen Laboratory Directors reported the inclusion of the five aspects (content, behavioral objectives, learning experiences, teaching aids, and evaluation) in development of curriculum guides. However, an evaluation of curriculum materials produced by the various Laboratories indicates considerable variance regarding the inclusion of the five aspects.

Data indicate the use of curriculum materials from other Laboratories is not too extensive. Fifteen of seventeen Directors obtain materials from other states and adopt for use if required. An analysis of data indicate, however, that six of the fifteen Directors make only minimal use of materials from other states.

Data indicate only a fair effort by the Directors in forwarding curriculum materials to ERIC. Three Directors stated that their efforts were not too extensive. Two Directors were not forwarding any material to ERIC.

Data indicate a considerable variance in providing

in-service training sessions for the introduction of new curriculum materials. Four Laboratory Directors do not provide in-service training sessions. Of the fourteen Directors providing such training programs, five Directors indicated no budget for such purpose.

Data indicate Laboratories are financed by various sources of funds. Major sources are: sixteen, or 95 percent, receive state funds; thirteen, or 76 percent, federal funds; eight, or 47 percent, money from sales of curriculum materials; seven, or 41 percent, university funds.

Data indicate an extreme variance in operating budgets of Laboratories from a low of \$15,000 to a high of \$980,000, with a median of \$164,000. Budgets include funds for in-service training programs, where applicable, when introducing new curriculum material.

Data indicate a considerable variance in the amount of money Laboratories receive from the sale of curriculum materials. Sales range from \$2,500 to \$483,000. Eight states use money from sales of curriculum materials to assist in operating the Laboratory.

Data indicate advisory committees were used slightly over 50 percent of the time in regard to Laboratory operations, setting priorities, and approving of curriculum guides.

Data indicate ten Laboratory Directors anticipate degrees of restructuring the Vocational Education Curriculum Laboratory within the next twelve months.

CHAPTER V

COST ANALYSIS DATA AND ANALYSIS OF CURRICULUM LABORATORY
STAFF APPEARING IN THIRTY-TWO APPLICATIONS
SUBMITTED TO U.S. OFFICE OF EDUCATION FOR
CONSIDERATION OF GRANT AWARDS

The researcher spent considerable time in the Curriculum Center for Occupational and Adult Education, Bureau of Adult, Vocational, and Technical Education, USOE, analyzing data of thirty-two grant requests submitted to the Center in response to "Announcement of Grant Awards to Increase the Capability of Vocational Education Curriculum Laboratories in the Various States." Grants were made against \$1 million allocated for this purpose.

Data collected and analyzed in reference to staffing patterns, budgets, and location of Laboratories were used as additional rationale to support the development of a "Model Plan for a Career Education Curriculum Laboratory."

Total grant requests, state, and in-kind contributions listed in the thirty-two applications submitted to the Center are listed below:

Grants requested totaled	\$ 8,870,714
State contributions totaled	2,623,568
In-kind totaled	<u>1,353,953</u>
	\$12,848,235

Announcement of Grant Awards

The "Announcement of Grant Awards to Increase the Capability of Vocational Curriculum Laboratories" was forwarded to all State Directors plus the Directors in the Commonwealths, Trust Territory, and the District of Columbia. The Announcement indicated that grant requests would be accepted by the Curriculum Center for Occupational and Adult Education whether or not the applicant had an established Vocational Education Curriculum Laboratory.

Most states, with or without an established Laboratory, produce vocational instruction materials. Therefore, the purpose of the "Announcement of Grant Awards" was twofold: (1) to provide funds to approved applicants for the purpose of increasing the capability of Laboratories, thereby making it feasible to coordinate all occupational curriculum development through one center; and (2) to provide funds to approved applicants for the purpose of establishing a Laboratory, to accomplish the same purpose.

Five grant requests were approved for funding. Four approved requests were from states with established Laboratories: Illinois, Kentucky, Mississippi, and Oklahoma.

The fifth approved grant request was from a state establishing a Laboratory: California.

Statements by Applicants of Grant Requests Justifying
the Need for Federal Funds to Establish a
Curriculum Laboratory or Increase the
Capability of the Existing Laboratory

The researcher read, in detail, the thirty-two applications submitted for consideration of grant awards to determine the state's justification for requesting funds to increase the capability of its existing laboratory or to establish one. The following statements were taken from applications that listed justifying rationale for the grant request.

The current curriculum development activities are uncoordinated, fragmented, little known, and to a great extent non-effective and non-sequential.

There is no correlation or standardization of educational offerings. We have not identified the skills required in the various program areas requisite to entry level employment.

Consolidate present vocational curriculum personnel in the State Department into one cohesive unit.

Curriculum development activities for Vocational Technical Education in the state thus far have been segmented and loosely structured through an informal organization evolving around the college of education's vocational technical laboratory.

Extremely broad functions are proposed for the Vocational Technical Curriculum Laboratory. Throughout the work of the Laboratories a systematic interdisciplinary approach will be implemented involving both teachers of vocational and related basic subjects, researchers, and numbers of State Department of Education Task Force on Career Education.

Effective January 1972, we began formal staffing of the Career Education Curriculum Laboratory. Prior to that date, all curriculum efforts were carried out in various locations and assigned to various service functions within the state.

The Department of Public Instruction is under the auspices of the State Board of Education, and vocational

education is presently involved in the "designing of a Career Education Instructional System" consisting of: Career Education curricula for English, mathematics, science, and social studies; youth organization programs; occupational skill learning tasks; management information system; and manpower needs study.

The need has arisen broadening the state's goals to include Career Education. To improve capabilities of the laboratory: (1) reorient efforts toward curriculum management in Career Education to include audiovisual information acquisition, curriculum design, and in-service educational functions; (2) continue its personnel reorientation efforts statewide toward the concept of Career Education through curriculum management; and (3) to become a regional development/procurement and dissemination center.

Serious need exists in the state for a curriculum laboratory to serve vocational technical education.

Laboratory will achieve maximum effectiveness as a change agent to the extent that educational personnel have been trained to implement new concepts.

Need exists for coordination of efforts between state's curriculum development unit and other organizations with similar interests and concerns. Proposed laboratory will coordinate the efforts of the State RCU, community colleges, secondary schools, and vocational technical schools.

At the present time, the major emphasis at the vocational curriculum laboratory has been on production. The total effort could be much more effective if the staff of the curriculum laboratory was expanded giving it overall coordination and leadership in the career education emphasis.

The state recognizes the need to improve its capabilities as a State Curriculum Management Center. To date, the state curriculum development efforts have been fragmented as the various offices in the State Department of Education have been developing curricular materials independently and without adequate coordination in these activities.

To extend and expand the capability and reorient the state's curriculum laboratories for vocational technical education toward the concept of career education.

Currently there does not exist in the state a specific, designated unit which coordinates research, development,

diffusion, and utilization of curriculums in vocational and career education.

Analysis of States Submitting an Application
for Grant Awards, Location of Laboratories,
Sums of Grant Requests, and Extra Charges

Fourteen, or 44 percent, of the applications were from states with established Vocational Education Curriculum Laboratories. It was interesting to note that the mean budget request from states with Laboratories was \$284,891 compared to \$270,796, the mean budget request from states without Laboratories.

Data in the budget tables that follow indicate a high of:

58.17 percent for fringe benefits

36.0 percent for indirect costs

18.0 percent for overhead costs

Data also indicate that if all applicants were funded, fifteen, or 44 percent, of the Laboratories would be located at a university.

Table 41 indicates that fourteen of the seventeen states with established Vocational Education Curriculum Laboratories submitted grant requests for the purpose of improving the capability of the Laboratory. In addition, eighteen states without a Laboratory (including the Commonwealths and the District of Columbia) also submitted a grant request. These eighteen states are listed in Table 42.

Grant requests from the fourteen states with

TABLE 41

STATES WITH ESTABLISHED VOCATIONAL EDUCATION CURRICULUM
LABORATORIES SUBMITTING GRANT REQUESTS

Established Vocational Education Curriculum Laboratories	Submitted grant request
California (Just starting a Lab)	California ^a
Connecticut (Just starting a Lab)	Connecticut
Illinois	Illinois ^a
Indiana	Indiana
Kentucky	Kentucky ^a
Louisiana	
Massachusetts (Just starting a Lab)	Massachusetts
Mississippi	Mississippi ^a
New Jersey	New Jersey
New York	New York
North Carolina	
Ohio	Ohio
Oklahoma	Oklahoma ^a
South Carolina	South Carolina
Tennessee	Tennessee
Texas	Texas
Virginia	

^aStates receiving approval of their grant request.

TABLE 42

STATES SUBMITTING A GRANT REQUEST WITHOUT A LABORATORY OR
PREVIOUSLY INDICATING CONTEMPLATION OF ESTABLISHING ONE

States without a Laboratory
or contemplating one

Alabama

Colorado

Delaware

District of Columbia

Georgia

Hawaii

Idaho

Minnesota

Missouri

Nebraska

New England Resource Center
for Occupational Education

Nevada

New Mexico

Pennsylvania

Puerto Rico

Virgin Islands

Washington

Wisconsin

Laboratories ranged from \$146,018 to \$546,250, with a mean of \$284,891. State contributions ranged from zero to \$415,202 with one state indicating an in-kind contribution of \$1,201,893. Since all applicants were operating Laboratories, it could not be determined if state contributions were existing budgets or funds in part or completely over and above existing budgets. The complete data are listed in Table 43.

Grant requests from the eighteen states without Laboratories ranged from \$94,166 to \$637,589, with a mean of \$270,796. State contributions ranged from zero to \$409,229 with one state indicating an in-kind contribution of \$50,000. Table 44 gives the complete data.

Table 45 provides the data that indicate considerable variance in fringe benefits (5-18 percent), indirect costs (6-58.17 percent), and overhead charges (10-36 percent). Among the thirty-two applicants submitting grant requests, nine, or 28 percent, indicated indirect costs; six, or 19 percent, overhead costs; and fifteen, or 47 percent, fringe benefit charges.

It was interesting to notice that fifteen, or 47 percent, of the thirty-two Laboratories referred to in the grant request were located or would be located, if federally funded, at universities. Seven, or 20.6 percent, were or would be located within divisions of vocational education. Table 46 lists the findings.

TABLE 43

GRANT REQUESTS FROM STATES WITH VOCATIONAL
EDUCATION CURRICULUM LABORATORIES

Grant requests	State contributions
\$146,018	\$1,201,893 (in-kind)
150,000	313,460
150,000	284,202
150,000	188,000
161,640	0
169,560	415,202
244,066	0
250,985	105,838
276,539	0
357,732	50,000
433,782	0
451,720	0
500,185	0
546,250	0

TABLE 44

GRANT REQUESTS FROM STATES WITHOUT VOCATIONAL
EDUCATION CURRICULUM LABORATORIES

Grant requests	State contributions
\$ 94,166	0
109,890	0
114,612	\$ 15,000
159,287	39,500
163,580	34,000
179,790	50,000 (in-kind)
188,124	21,227
215,784	20,000
241,478	200,691
253,883	216,193
261,730	53,400
299,630	0
307,043	220,460
320,470	37,164
395,336	0
447,081	409,229
484,860	0
637,589	0

TABLE 45

STATES INDICATING INDIRECT, OVERHEAD, AND
FRINGE BENEFIT COSTS IN GRANT REQUESTS

Fringe benefits	Indirect costs	Overhead costs
%	%	%
5	6	10
8	8	18.37
8	8	36
10	8	Allotment requested ^a
10	8	Allotment requested ^a
12	8	Allotment requested ^a
12.1	15	
14	50	
15	58.17	
18		
Allotment requested		
Allotment requested		
Allotment requested		
Allotment requested		

^aIn applications where an allotment was requested, no percentage was indicated.

TABLE 46
GRANT REQUESTS INDICATING THE NUMBER OF LABORATORIES
IN FOUR DIFFERENT LOCATIONS

Locations	Estab- lished labs.	Contem- plated labs.	Estab- lished private labs.	Total
University	7	8	0	15
Division of vocational education	5	2	0	7
Private facility	0	0	1	1
Area vocational school	1	1	0	2
No indication	1	6	0	7
Total				32

Analysis of Salaries of Vocational
Education Curriculum Laboratory Staff

Data in Tables 47-58 indicate considerable range in salary of Laboratory staff. Staff with the greatest range in salary were:

Media specialists (Table 55)

202.7 percent range from \$5,286 to \$16,000

Laboratory Director (Table 47)

192.0 percent range from \$8,220 to \$24,000

Curriculum Specialists (Table 49)

141.4 percent range from \$7,986 to \$19,280

Assistant Directors (Table 47)

116.0 percent range from \$10,000 to \$21,600

Editors (Table 54)

98.9 percent range from \$6,034 to \$12,000

Clerk typists (Table 48)

93.6 percent range from \$3,500 to \$6,776

Analysis of Budgets for
Operation of Laboratories

Tables 59-65 indicate considerable ranges for various Laboratory operational budgets. The more wider ranges are indicated below.

Consultant fees (Table 59)

Ranged from \$50 to 150 per day

Rate of pay for substitute classroom teachers
(Table 61)

Ranged from \$15.75 to \$40.00 per day

TABLE 47

SALARIES OF LABORATORY DIRECTORS, ASSISTANT
DIRECTORS, AND CO-DIRECTOR

Director	Assistant director	Co-director
\$ 8,220	\$10,000	\$17,100
10,600	12,000	
10,666	13,620	
12,532	15,000	
13,740	18,000	
13,966	18,332	
14,400	21,600	
14,666		
15,000		
15,000		
15,166		
16,000		
16,000		
16,000		
17,038		
17,250		
17,400		
18,000		
18,000		
18,376		
18,634		
20,000		
21,000		
21,384		
22,000		
24,000		
Median = 16,000	Median = 15,000	
Mean = 16,483	Mean = 15,507	

TABLE 48
SALARIES OF LABORATORY STENOGRAPHERS,
CLERK-TYPISTS, AND MSTS OPERATORS

Stenographer	Clerk-typist	MSTS operator
\$5,000	\$3,500	\$4,280
5,200	3,500	5,400
5,434	4,000	5,499
5,508	4,140	5,600
6,000	4,200	6,488
6,000	4,200	
6,500	4,200	
6,516	4,200	
6,600	4,200	
6,600	4,362	
7,006	4,526	
9,062	4,660	
	4,660	
	4,666	
	4,800	
	5,000	
	5,000	
	5,320	
	5,400	
	5,500	
	5,600	
	5,744	
	6,000	
	6,012	
	6,776	
Median = 6,250	Median = 4,666	Median = 6,488
Mean = 6,290	Mean = 4,840	Mean = 5,453

TABLE 49

SALARIES OF LABORATORY CURRICULUM SPECIALISTS,
ELEMENTARY EDUCATORS, TEACHER EDUCATORS,
AND IN-SERVICE TRAINING SPECIALIST

Curriculum specialist	Elementary educator	Teacher educator	In-service training specialist
\$ 7,986	\$11,000	\$10,666	\$16,000
8,500		15,236	
8,738			
9,000			
9,166			
10,000			
10,800			
10,800			
11,056			
11,766			
12,000			
12,000			
12,000			
12,360			
12,532			
12,928			
13,000			
13,500			
14,006			
14,336			
16,000			
16,000			
18,000			
18,000			
18,144			
19,200			
19,280			
Median = 12,446			
Mean = 12,522		Mean = 12,951	

TABLE 50

SALARIES OF LABORATORY EVALUATION SPECIALISTS AND
SUPERVISOR OF CURRICULUM PRODUCTION

Evaluation specialist	Supervisor of curriculum production
\$10,100	\$7,000
12,000	
Mean = 11,050	

TABLE 51
SALARIES OF LABORATORY TRANSLATOR, TECHNICAL WRITER,
AND ACQUISITION-DISSEMINATION SPECIALISTS

Translator	Technical writer	Acquisition- dissemination specialist
\$10,000	\$7,066	\$12,000
		16,000
		Mean = 14,000

TABLE 52
SALARY OF GUIDANCE COUNSELOR

Guidance counselor
\$15,236

TABLE 53

SALARIES OF GRADUATE STUDENT ASSISTANTS, GRADUATE
RESEARCH ASSOCIATE, AND WORK STUDY STUDENT

Graduate student assistant	Graduate research associate	Work-study student
\$5,400	\$9,000	\$225
4,896		
Mean = 5,148		

Note.--1. Above salaries are listed as indicated in the grant request which was prepared for eighteen months.

2. One state listed the employment of three graduate student assistants.

One state listed the employment of ten graduate student assistants.

One state listed the employment of eight half-time graduate research associates and twelve work-study students.

TABLE 54

SALARIES OF LABORATORY EDITORS, EDITOR ASSISTANT,
LIBRARIANS, AND LIBRARIAN ASSISTANTS

Editor	Editor assistant	Librarian	Librarian assistant
\$ 6,034	\$7,500	\$ 6,660	\$4,878
7,100		9,058	6,000
10,000		10,440	
10,356		13,880	
12,000			
Median = 10,000		Median = 9,749	
Mean = 9,098		Mean = 10,009	Mean = 5,439

TABLE 55

SALARIES OF LABORATORY MEDIA SPECIALISTS, MEDIA ASSISTANTS,
ARTISTS, GRAPHICS DESIGNER, GRAPHICS DESIGNER
ASSISTANT, AND DARKROOM TECHNICIAN

Media specialist	Media assistant	Artist	Graphics designer	Graphics designer assis- tant	Darkroom technician
\$ 5,286	\$4,200	\$ 4,260	\$7,100	\$6,780	\$5,640
6,000	6,000	6,300			
7,364		8,200			
8,380		8,400			
10,000		10,666			
10,100		12,000			
11,676		12,112			
12,000					
15,900					
16,000					
Median = 10,050		Median = 8,400			
Mean = 10,270	Mean = 5,100	Mean = 8,848			

TABLE 56

SALARIES OF LABORATORY PRINTING PRESSMEN, DUPLICATING
MACHINE OPERATORS, AND LABORATORY TECHNICIAN

Printing pressman	Duplicating machine operator	Laboratory technician
\$5,300	\$5,000	\$9,200
5,640	5,332	
6,000	7,800	
6,200		
6,600		
6,660		
7,332		
8,000		
8,400		
9,200		
Median = 6,630	Median = 5,332	
Mean = 6,933	Mean = 6,044	

TABLE 57

SALARIES OF LABORATORY BOOKKEEPERS, BUSINESS
MANAGERS, AND BUSINESS MANAGER ASSISTANT

Bookkeeper	Business manager	Business manager assistant
\$6,920	\$6,000	\$7,126
7,006	9,000	
Mean = 6,963	Mean = 7,500	

TABLE 58

SALARIES OF LABORATORY MAIL CLERK AND CLERK

Mail clerk	Clerk
\$4,000	\$4,400

TABLE 59
RATES OF CONSULTANT FEE AND BUDGETS FOR PROFESSIONAL
AND TECHNICAL CONSULTANTS

Consultant fee	Budget for professional and technical consultant
\$ 50 per day	\$ 1,000
50 per day	1,000
50 per day	2,000
50 per day	3,000
75 per day	3,500
75 per day	4,000
75 per day	4,500
75 per day	5,000
100 per day	5,000
150 per day	5,000
150 per day	5,400
	6,000
	7,947 (advisory committees and consultants)
	8,000
	9,000
	10,000
	15,000
	15,000
	16,000
	17,500
	20,000
	24,000
	29,000
	34,000
	40,000 (advisory committees, consultants, interns)
	50,000
	118,000 (honorariums, per diem, travel)
Median = 8,000	
Mean = 12,517	

Note.--Above budgets for professional and technical consultants are listed as indicated in the grant request which was prepared for eighteen months.

TABLE 60

LABORATORY BUDGET ALLOCATIONS FOR IN-SERVICE TEACHER
TRAINING, WORKSHOPS, AND CONFERENCES

In-service teacher training	Workshops and conferences
\$10,000	\$ 4,524 (7.54 per hour)
11,860	15,000
31,725	15,000
46,666	17,600
	20,000
	31,500
	36,600 (10.00 per hour)
	37,500
	40,000
Median = 21,793	Median = 20,000
Mean = 25,062	Mean = 24,191

Note.--Above budgets are listed as indicated in the grant request which was prepared for eighteen months.

TABLE 61
RATE OF PAY AND BUDGET FOR PAY OF
SUBSTITUTE CLASSROOM TEACHERS

Rate of pay for substitute classroom teachers	Budget for pay of substi- tute classroom teachers
\$15.75 per day	\$7,200
25.00 per day	8,000
40.00 per day	
Mean = 26.92 per day	Mean = 7,600

Note.--1. Above budgets are listed as indicated in the grant request which was prepared for eighteen months.

2. Substitute teachers will be employed when regular classroom teachers are receiving in-service training in the use of newly developed curriculum materials or attending workshops and conferences.

TABLE 62

BUDGETS FOR EVALUATION AND ADVISORY COMMITTEES

Budget for evaluation	Budget for advisory committee
\$3,000	\$2,000
3,375	3,000
4,500	
9,968	
Median = 3,937	
Mean = 5,210	Mean = 2,500

Note.--Above budgets are listed as indicated in the grant request which was prepared for eighteen months.

TABLE 63
LABORATORY REQUESTS FOR COMMUNICATIONS,
SUPPLIES, AND TRAVEL

Communications	Supplies	Travel
\$ 332	\$ 2,400	\$ 660
400	2,660	660
900	3,000	1,332
1,008	3,330	1,666
1,080	3,332	1,676
1,200	3,600	1,966
1,574	5,332	3,336
1,800	6,666	3,456
1,866	7,332	5,200
2,166	11,880	5,800
2,500 ^a	12,666	6,100
2,532	14,000	6,400
2,660 ^a	14,000	6,660
3,000	16,080	6,660
4,000 ^a	18,100	7,332
4,000	24,534	8,000
5,400	53,000	9,206
13,332 ^b		9,600
		12,300
		14,000 ^c
		14,400
		20,000 ^c
		21,466
		21,634
Median = 1,687	Median = 7,332	Median = 6,250
Mean = 2,647	Mean = 11,877	Mean = 7,026

^aCommunications and postage.

^bCommunications and office supplies.

^cTravel and per diem.

TABLE 64

LABORATORY BUDGETS FOR MICROFICHE DUPLICATION, AUDIOVISUAL
SUPPLIES, AND DISSEMINATION OF CURRICULUM MATERIALS

Microfiche duplication	Audiovisual supplies	Dissemination of curriculum materials
\$2,466	\$ 1,660	\$ 2,400
	2,660	3,332
	5,332	6,660
	20,000	12,000
	20,200	15,000
	Median = 5,332	Median = 6,660
	Mean = 9,970	Mean = 7,880

TABLE 65
LABORATORY BUDGETS FOR OFFICE SUPPLIES, POSTAGE,
PRINTING, AND DUPLICATION

Office supplies	Postage	Printing and duplication
\$1,200	\$ 660	\$ 1,200
1,400	720	2,500
1,400	900	6,660
1,600	2,000	6,866
1,660	3,460	12,000
1,666	6,666	12,000
3,200		13,320
3,332		13,666
4,000		14,000
6,660		16,666
		33,332
Median = 1,663	Median = 1,450	Median = 12,000
Mean = 2,612	Mean = 2,402	Mean = 12,019

Budgets for professional and technical consultants
(Table 59)

Ranged from \$1,000 to \$50,000

Budgets for in-service teacher training (Table 60)

Ranged from \$10,000 to \$46,666

Budgets for workshops and conferences (Table 60)

Ranged from \$4,524 to \$40,000

Budgets for communications (Table 63)

Ranged from \$332 to \$5,400

Budgets for supplies (Table 63)

Ranged from \$2,400 to \$53,000

Budgets for travel (Table 63)

Ranged from \$660 to \$21,634

Budgets for audiovisual supplies (Table 64)

Ranged from \$1,660 to \$20,200

Budgets for dissemination of curriculum materials
(Table 64)

Ranged from \$2,400 to \$15,000

Budgets for office supplies (Table 65)

Ranged from \$1,200 to \$6,600

Budgets for postage (Table 65)

Ranged from \$660 to \$6,666

Budgets for printing (Table 65)

Ranged from \$1,200 to \$33,332

Analysis of Identifiable Job Responsibilities
of Laboratory Staff and Various
Titles Given to Each

An analysis of the thirty-two applications submitted to the Curriculum Center for Occupational and Adult Education, USOE, for grant awards indicates that twenty-nine job responsibilities were identified, comprising administrative staff, curriculum specialists, and support staff of Laboratories. Data include present Laboratory staff and contemplated staff of applicant states not funded.

Data include numerous titles for the same job responsibility. For example, seventeen different titles were identified for the Laboratory Director, six for the Assistant Director, and eleven for the media specialist.

The findings are detailed in Table 66.

Analysis of Administrative Staff, Curriculum Specialists, and Support Staff of the Five States Receiving Grant Awards

Five states, namely, Mississippi, Kentucky, Oklahoma, Illinois, and California, out of a total of thirty-two applicants, were approved with Grant Awards to increase the capability of their Vocational Education Curriculum Laboratories. The five states were funded because they most adequately met the following criteria in the Announcement of Grant Awards:

<u>Criteria</u>	<u>Percentage points</u>
A. Career education orientation in the plans for expanding the capabilities of the Curriculum Laboratory is clearly evident.	10%
B. The State recognizes the need and has a desire to extend and expand its vocational-technical or career education curriculum laboratory operation.	5%
C. There is evidence that there are resources available to accomplish the goals set forth in the proposal.	10%
D. There is provision to involve personnel from all areas of general and pre-vocational and vocational education, including elementary and secondary education, industrial arts and the occupational service areas in vocational education in the curriculum development laboratory.	10%

TABLE 66

IDENTIFIABLE JOB TITLES OF VOCATIONAL EDUCATION
CURRICULUM LABORATORY STAFF

Administrative staff, curriculum specialists, and support staff	Number of applicant responses
<u>Administrative Staff</u>	
Laboratory Director	
Associate Director	1
Associate Director/Occupational Curriculums	1
Center Director	1
Chief Coordinator/Career Education	1
Chief Laboratory Supervisor	1
Coordinator	5
Curriculum Project Director	1
Director	3
Director Career Education	1
Director--Career Education--Instructional Media	1
Director Coordinator	2
Director of Laboratory	1
Laboratory Director	2
Project Coordinator	2
Project Director	4
Regional Curriculum Coordinator	1
Supervisor	2
<u>Assistant Laboratory Director</u>	
Assistant Coordinator	1
Assistant Director	3
Assistant Director/Career Education	1
Assistant Director/Coordinator	1
Assistant Laboratory Director	1
Co-Director--Career Education--Instructional Media	1
<u>Business Manager</u>	
Administrative Assistant	1
Administrative Officer	1
Bookkeeper	2
Bookkeeper Receptionists	1
Business Manager	1
Office Manager	1

(continued)

TABLE 66 (continued)

Administrative staff, curriculum specialists, and support staff	Number of applicant responses
<u>Curriculum Staff</u>	
<u>Pre-School and Elementary Curriculum Specialist</u>	
Coordinator/Pre-School and Elementary Education	1
Elementary Education and Career Orientation	1
Elementary and Secondary Education Specialist	1
Elementary Specialist	4
Exploratory Specialist	1
K-8 Careers Coordinator	1
Occupational Orientation Specialist	1
<u>Secondary Education Specialist</u>	
Coordinator Secondary Education	1
Secondary Education Specialist	1
<u>Post-Secondary Curriculum Specialist</u>	
Coordinator Out of School and Adult Education	1
Post-Secondary Specialist	2
<u>K through Adult Curriculum Specialist</u>	
Career Education Specialist	1
Communications and Media	1
Cooperative Vocational Education Specialist	2
Coordinator Special Needs Education	1
Curriculum Development Specialist	1
Curriculum Materials Specialist	2
Curriculum Specialist	4
Curriculum Writer	1
Disadvantaged and Handicapped Curriculum Specialist	1
Field Curriculum Specialist	1
Fine Arts and Humanities Specialist	1
General Science Specialist	1
Industrial Arts	3
Instructional Technologist	1
Pilot Program Specialist	1
Recreation, Hospitality and Marine Science	1
Technical Curriculum Writer	1
Vocational Education Specialist	1
Vocational Technical Career Ed. Specialist	1

(continued)

TABLE 66 (continued)

Administrative staff, curriculum specialists, and support staff	Number of applicant responses
<u>Specific Occupational Curriculum Specialist</u>	
Agriculture	5
Agriculture--Business	1
Business and Office	5
Construction	1
Consumer and Home Economics	1
Distributive Education	3
Health Occupations	2
Home Economics	4
Home Economics and Health	1
Industrial	1
Manufacturing	1
Technical	1
Trade and Industrial	3
<u>In-Service Curriculum Education Specialist</u>	
In-Service Training Specialist	1
Teacher Education Specialist	4
Coordinator Vocational Education and Training	1
<u>Support Staff</u>	
<u>Curriculum Acquisition and Dissemination Specialist</u>	
Acquisition-Dissemination Specialist	2
Dissemination Specialist	1
Publications Coordinator	1
<u>Guidance Specialist</u>	
Guidance and Counseling Specialist	3
Guidance Specialist	1
<u>Translation Specialist</u>	
Translation Specialist	1
<u>Editorial Specialist</u>	
Editor	5
Editorial Assistant	1
Senior Editor	2
Editor-Librarian	1

(continued)

TABLE 66 (continued)

Administrative staff, curriculum specialists, and support staff	Number of applicant responses
<u>Curriculum Research Specialist</u>	
Research Assistant	1
Research Associate	3
Research and Development Specialist	1
Research Specialist	1
<u>Evaluation Specialist</u>	
Evaluation Specialist	2
<u>Artist</u>	
Artist	3
Commercial Artist	1
Illustrator	2
<u>Media Specialist</u>	
Audiovisual Clerk	1
Audiovisual Specialist	1
Communications and Media Specialist	1
Coordinator Career Education Media	1
Graphics Production Specialist	1
Media Assistant	1
Media/Graphics Designer	1
Media Production Specialist	1
Media Specialist	7
Media and Technical Coordinator	1
Media and Technical Supervisor/Coordinator	1
<u>Librarian (Curriculum)</u>	
Librarian	6
Librarian Assistant	2
<u>Librarian (Film)</u>	
Film Librarian	1
<u>Curriculum Production Supervisor</u>	
Curriculum Production Supervisor	1
<u>Adjustiwriter Operator</u>	
Composer MSTs	2
MSTs Operator	1

(continued)

TABLE 66 (continued)

Administrative staff, curriculum specialists, and support staff	Number of applicant responses
<u>Laboratory Technician</u>	
Curriculum Laboratory Technician	1
<u>Laboratory Technician</u>	1
Technician	1
<u>Compositor</u>	
Compositor	1
<u>Dark Room Technician</u>	
Dark Room Technician	1
<u>Printing Machine Operator</u>	
Curriculum Laboratory Printer	1
Press Operator	7
Machine Operator	1
<u>Clerk</u>	
Clerk	1
General Office Clerk	1
<u>Mail Clerk</u>	
Mail Clerk	2
<u>Utility Personnel</u>	
Maintenance Service Personnel	1
Utility and Maintenance Personnel	1
<u>Community Relations Specialist</u>	
Community Relations Specialist	1

<u>Criteria</u>	<u>Percentage points</u>
E. There are clearly defined objectives for laboratory operation and well-developed strategies for their achievement, including time lines.	25%
F. Objectives of the laboratory cover all phases of curriculum management: development, diffusion, and dissemination of curricula; coordination of curriculum effort with developments in educational technology and the systems of delivery and administration; and provisions for in-service training of educational personnel for adapting and using curriculum materials.	5%
G. There is planned liaison and coordination with relevant agencies: the State Research Coordinating Unit; other agencies of the State Department of Education concerned with vocational-technical education, manpower development, adult education, elementary and secondary education, education of the handicapped, etc.; college and university programs in teacher education in relevant areas; local educational agencies in terms of their curriculum development efforts; other state curriculum laboratories; and other relevant organizations and agencies with respect to their curriculum efforts.	5%
H. There is evidence of plans for a comprehensive career education curriculum effort.	10%
I. There is a comprehensive financial plan which gives evidence of strong state support.	5%
J. There is evidence that curriculum laboratory personnel are well qualified by training and experience for their responsibilities.	5%
K. There is a well-developed, feasible plan for evaluation of the effectiveness of the curriculum laboratory in terms of its stated objectives.	10%
TOTAL	<u>100%</u>

The following information describes the location of the Laboratory in Mississippi, Kentucky, Oklahoma, Illinois, and California, including an explanation of the curriculum specialists and support staff as indicated in Table 67.

Mississippi

The Laboratory in Mississippi is located on the campus of Mississippi State University. Reproduction of various curriculum materials is accomplished in the same facility.

Data indicated in Table 67 that in addition to similar curriculum specialists and support staff of the other Laboratories, the Mississippi Laboratory is the only one of the five with staff curriculum specialists in the areas of:

Industrial Arts

Occupational Orientation

Technical Education

Teacher Education

and support staff in the areas of:

Bookkeeper-Receptionist

Editor-Librarian

Film Librarian

Office Manager

Publications Coordinator

Kentucky

The Laboratory in Kentucky is located in one building on the campus of the University of Kentucky. The

Laboratory support staff, outside of secretaries, is relatively small because printing of various curriculum materials is accomplished in area vocational schools.

Data indicate in Table 67 that in addition to similar curriculum specialists of the other Laboratories, the Kentucky Laboratory is the only one of the five with staff curriculum specialists in the areas of:

Communications Media

Construction

Fine Arts and Humanities

Handicapped and Disadvantaged

Health Occupations

Manufacturing

Recreation, Hospitality, and Marine Science

Coordinator, Vocational Education and Training

and support staff in the areas of:

Artists

Media Specialist

Oklahoma

The Laboratory in Oklahoma is the only one in the nation located in a facility specifically designed and constructed as a Vocational Education Curriculum Laboratory. The facility is adjacent to the Oklahoma State Department of Vocational-Technical Education located on the campus of Oklahoma State University. Reproduction of various curriculum materials is accomplished in another facility.

Data indicate in Table 67 that in addition to similar curriculum specialists of the five Laboratories, the Oklahoma Laboratory is the only one with staff curriculum specialists in the areas of:

Exploratory

Guidance

Home Economics and Health

and support staff in the areas of:

Audiovisual Clerk

Illustrator

Assistant Librarian

Media Graphics Designer

Media Assistant

Illinois

The Laboratory in Illinois is located within the Division of Vocational and Technical Education as an integral part of the Professional and Curriculum Development Unit.

Data indicate in Table 67 only one staff curriculum specialist is responsible for the development or revision of curriculum materials. He has at his disposal two alternatives: (1) curriculum revision or development through contracting with outside individuals; and (2) curriculum revision or development utilizing his own expertise, that of other Laboratory staff, and/or staff of the Division of Vocational and Technical Education.

Support staff in addition to similar positions of the other five Laboratories are in the areas of:

Clerk

Machine Operator

Mail Clerk

California

Data indicate that California has the smallest Laboratory staff of the five states funded with four and one-half persons of the total of eleven as curriculum specialists. The main purpose of the newly established Laboratory located in the Vocational Education Section, California State Department of Education, is to consolidate its isolated and uncoordinated curriculum activities into a team effort.

The five states receiving grant awards to increase the capability of their Laboratories are identified in Table 67 by Roman numerals I through V:

I. Mississippi

II. Kentucky

III. Oklahoma

IV. Illinois

V. California

TABLE 67

ADMINISTRATIVE STAFF, CURRICULUM SPECIALISTS, AND SUPPORT
STAFF OF THE FIVE STATES RECEIVING GRANT AWARDS

Administrative staff, curriculum specialists, and support staff	States				
	I	II	III	IV	V
<u>Administrative Staff</u>					
Coordinator			1		
Assistant Coordinator			2		
Coordinator Professional and Cur- riculum Development				20%	
Assistant Coordinator Professional and Curriculum Development				20%	
Director	44%	1			
Assistant Director		1			
Co-Director	$1\frac{1}{10}$				
Director-Career Education- Instructional Media				1	
Co-Director-Career Education- Instructional Media				1	
Project Director					1
<u>Curriculum Specialists</u>					
Agriculture	1	1	1		
Business and Office	1	1			
Communication and Media		1			
Construction		1			
Cooperative Vocational Education	1		1		
Distributive Education	$1\frac{1}{2}$	1			
Elementary Education	1		1		
Exploratory			1		
Fine Arts and Humanities		1			
Guidance			1		
Handicapped and Disadvantaged		$1\frac{1}{2}$			
Health Occupations		1			
Home Economics	1	1			
Home Economics and Health			1		
Industrial Arts	1				
Manufacturing		1			
Occupational Orientation	1				
Recreation, Hospitality, and Marine Science		1			
Technical	1				
Trade and Industrial	1		1		
Curriculum Materials Specialist				1	$4\frac{1}{2}$

(continued)

TABLE 67 (continued)

Administrative staff, curriculum specialists, and support staff	States				
	I	II	III	IV	V
Coordinator Vocational Education and Training			1		
Teacher Education Specialist	$\frac{1}{2}$				
<u>Support Staff</u>					
Artist		2			
Audiovisual Clerk			1		
Bookkeeper-Receptionist	1				
Clerk				1	
Composer MSTs	2		1	3	
Editor		$\frac{1}{2}$	1	25%	$\frac{1}{2}$
Editor Librarian	1				
Illustrator			1		
Librarian			1	1	1
Assistant Librarian			1		
Film Librarian	1				
Machine Operator				1	
Mail Clerk				1	
Media Graphics Designer			1		
Media Specialist		1			
Media Assistant			1		
Office Manager	1				
Publications Coordinator	1				
Press Operator	1			2	
Secretaries (Administrative and Supportive)	3	6	2	2	2
Total staff	23.54	23	21	14.65	9

CHAPTER VI

BASIC CRITERIA FOR EDUCATION

BEING CAREER EDUCATION

Career education is a comprehensive approach to education with a unique shape, a unique history, and a unique goal.

Career education is an idea whose time has come. It is responsive to current and future needs. It has involved our major political and educational statesmen, and has received special characteristics because of their role. It incorporates major educational thrusts over several decades. All this has been precipitated in 1971 and 1972 for the sake of specific results for students.

Each of career education's unique features will be examined in detail to establish what is normative for career education as it has actually developed. Therefore, this chapter will be presented under the following headings:

National Leadership Support for Career
Education

Needs to Be Met By Career Education

Principles and Goals of Career Education

Summary

National Leadership Support
for Career Education

Unlike many reforms previously addressed to American education, career education has had spokesmen in such leaders as President Nixon; U.S. Commissioner of Education Dr. Marland; U.S. Associate Commissioner of Education Dr. Worthington; former U.S. Deputy Commissioner of Education Dr. Bell; and Governor Cahill of New Jersey.

President Nixon (1972) gave major attention to career education in his State of the Union Message:

Career Education is another area of major new emphasis, an emphasis which has grown out of my belief that our schools should be doing more to build self-reliance and self-sufficiency, to prepare students for a productive and fulfilling life. Too often, this has not been happening. Too many of our students, from all income groups, have been "turning off" or "tuning out" on their educational experiences. And--whether they drop out of school or proceed on to college--too many young people find themselves unmotivated and ill-equipped for a rewarding social role. Many other Americans, who have already entered the world of work, find that they are dissatisfied with their jobs but feel that it is too late to change directions, that they already are "locked in."

One reason for this situation is the inflexibility of our educational system, including the fact that it so rigidly separates academic and vocational curricula. Too often vocational education is foolishly stigmatized as being less desirable than academic preparation. And too often the academic curriculum offers very little preparation for viable careers. Most students are unable to combine the most valuable features of both vocational and academic education; once they have chosen one curriculum, it is difficult to move to the other.

The present approach serves the best interests of neither our students nor our society. The unhappy result is high numbers of able people who are unemployed, underemployed, or unhappily employed on the one hand--while many challenging jobs go begging on the other.

We need a new approach, and I believe the best new approach is to strengthen career education.

U.S. Commissioner of Education Dr. Sidney P. Marland, Jr. (1971b) described the problem facing American education by referring to specific educational components, some quite expendable and some quite neglected:

The general education curriculum in U.S. high schools is "neither fish nor fowl" and "neither truly vocational nor truly academic." Vocational training is being treated as education's poor cousin.

We have hypnotized ourselves. We are so preoccupied with higher education that it has become a national fetish. High schools measure their success by the number of their students who go on to college. People view vocational education as a great thing for the neighbor's children.

[I] . . . suggest disposal of the term vocational education in favor of the term career education in an effort to eliminate the false dichotomy between things academic and things vocational.

All education is career education, or should be. And all our efforts as educators must be spent on preparing students either to become properly, usefully employed immediately upon graduation from high school or to go on to further formal education. Anything else is dangerous nonsense.

U.S. Associate Commissioner of Education Dr. Robert M. Worthington (1972) described the need for vocational education as an integral part of career education:

Only three of ten students currently in high school will go on to academic college level work, and that one-third of these will drop out and not receive a baccalaureate degree. That means that eight of ten present high school students should be getting occupational training of some sort, but only two of those eight students are, in fact, getting such training.

Vocational courses, cooperative work experience, occupational training--by whatever name, this kind of education has provided millions of Americans with very usable skills. Equally important, it has given them

a sense of the world that lies beyond the classroom. Too much of the rest of education fails significantly in this respect.

Governor William Cahill (1971) viewed the problem facing New Jersey education in a pragmatic and personal way:

It is not necessary that every boy and girl go to college in order to be successful. First of all, all of them don't want to go to college, and secondly all of them can't go to college.

We're giving the impression today if you don't go to college, you are a failure. We're making our curriculum in our high schools so oriented to college education that we're flunking out kids, or making it impossible for them to pass.

What this program says--in Bill Cahill's words, not the educators'--is this: that when a boy or girl finishes school--and he or she ought to finish--he or she should be equipped to go on to college or to get gainful employment and become a member of society who can have pride in what he's doing to be able to sustain himself as that other guy.

. . . I believe that a great plumber or a great electrician is just as successful as a great doctor or a great dentist. I think that any man who works to his capacity in any field and who gives an honest day's work to his fellow citizens is a great success.

I just can't believe it when the Commissioner of Labor of New Jersey gives me statistics telling me that we have an unemployment rate in the State of New Jersey of almost 8% and that at the very same time we have 3,000 jobs available in our unemployment offices. How can we have all of the unemployment and at the same time have all the jobs? The reason, I think, is pretty clear: The kids--the people--that are unemployed are not trained to do the jobs that are available.

Dr. Ted Bell (1972), formerly U.S. Deputy Commissioner of Education, Acting U.S. Commissioner of Education, and presently Superintendent of Schools, Salt Lake City, Utah, provided some practical insights into career education:

The concept of career education is not an extension of vocational education to make it more comprehensive.

Career education applies to every student. To be successful, every teacher must be a career educator.

Career education accepts the fact that some students may leave school and re-enter. It accepts the idea that education transcends the school curriculum and that the entire community is a resource for career development instruction.

Students who attend school with a purpose and students who select course work with a lifetime career objective in mind will be motivated to study and be oriented toward performance. Early career decisions, even if they are changed in light of further study and growth toward maturity, help students to plan a truly relevant and meaningful individualized curriculum.

. . . Career education is not anti-arts and anti-humanities, nor is it in competition with academics. It gives relevance and meaning to these subjects.

. . . If the foregoing definition of career education is accepted, even in part, it then follows what we must seek to shift the emphasis of academics. In fact, we should seek to vocationalize general education and generalize vocational education. We must weave into the total fabric of the educational program those experiences that will help the student to plan his life as well as to prepare for it.

Needs to Be Met By Career Education

The times call for a reform of American education. Nearly 2,500,000 students left the formal education system during 1970-1971 without adequate preparation for careers. This figure included: 850,000 elementary and secondary school dropouts; 750,000 general curriculum high school graduates who did not attend college; and 850,000 high school students who entered college in 1967, but did not complete the baccalaureate or an organized occupational program (Forsythe & York, 1972).

Of all the reforms that could be attempted, why is

career education the appropriate reform? Data assembled by the National Advisory Council for Vocational Education and published in a special paper, Why Career Education? The Facts (Forsythe & York, 1972) is helpful in substantiating the need for career education. The following justifications for career education were presented in the Forsythe and York publication and constitute the remainder of this section.

We need career education, pre-school to adult, to orient all to the world of work because college is not a guarantee to a high salary. Actually success is affected but not determined by educational attainment, as shown in the following data:

Educational attainments of heads of households now earning \$15,000 or more per year (U.S.A.)

Elementary	9.8%
Some high school	11.7%
High school graduates	30.7%
Some college	16.1%
College graduates	31.7%

[Linden Study, 1971]

Career education is needed to orient all persons to the rapidly shifting employment picture. The types of available jobs will change drastically in the future:

Types of jobs available, 2000 A.D. (U.S.)

One third of all the types of jobs in 2000 A.D. will be similar to those existing today.
Two thirds of all the types of jobs in 2000 A.D. will not be similar to those existing today.

[Symington, 1971]

One reason for more rapid change in jobs in the future will be more frequent inventions. Of products to be

made in the 1970's in the United States, 60 percent have not been invented yet.

The people of this nation need career education to reduce the gap between unfilled jobs and unemployed persons. Emergency measures are already in operation. But a long-range approach, involving all the people, will help to make unemployment a temporary dislocation rather than a permanent way of life for millions. Pertinent data on unemployment are listed below:

1. Many in the U.S. work force face unemployment.
In 1971, the unemployment rate was 5.9%, the highest in a decade (4.9% in 1970 and 3.5% in 1969).
[U.S. Department of Labor, 1971]
2. Teenagers often face unemployment.
In many parts of our country, one out of five teenagers, 16-19 years old are both out of school and out of work.
[Worthington, 1971]
3. High school graduates, especially those without job skills, often face unemployment.
Graduates in the 18- to 24-year-old group without vocational training have an unemployment rate of more than 24% while those graduates with vocational training are unemployed at the rate of 5.2%.
[Worthington, 1971]
4. Blacks especially face unemployment.
The ratio of black to white jobless is 1.8 to 1.
[U.S. Department of Labor, 1971]
5. Veterans often face unemployment.
At the end of 1971, the unemployment rate of 5.2 million Vietnam veterans reached 8.2%.
[Time, 1971]

Career education is needed to reduce the gap between career needs and unrealistic educational programs. The present secondary school curriculum is typically not realistic in terms of meeting student career needs, as shown in

Principles and Goals of Career Education

Career education has incorporated many concepts and elements found in recent American education. It is for all people, from nursery school through productive life. All educational experiences, programs, services, and resources should be mobilized for this goal: individual economic independence and an appreciation for the dignity of work.

Career education seeks the following results:

1. Prepare all students for a successful life of work by increasing their options for occupational choice.
2. Eliminate barriers, real and imagined, to attaining job skills.
3. Enhance learning achievements in all subject areas and at all levels of education.

Appropriate goals for the different age groups are as follows:

1. K-6 grades--Simultaneously with learning how to read, write, compute, history, languages, physical and social sciences, plus other subjects, the student explores the world of work through a wide spectrum of occupational "clusters."

2. 7-9 grades--The student examines more closely those "clusters" in which he is most interested.

3. 10th grade--Student develops elementary job skills, skills he or she can pursue if not completing high school.

4. 11th and 12th grades--Students completing the

twelfth grade will be prepared to enter the world of work or continue their education at various post-secondary institutions.

Major changes will be brought about in the schools because of the career education concept. Here are some examples of changes required: there will be a placement service in the school giving equal emphasis on placing persons in entry level jobs as on placing them in institutions for further education; skill credentials would become as important as college entrance credentials; all students would enjoy actual work experience at some point during their high school years; a very great range of occupational options would be revealed to students rather than a few; and positive attitudes towards work will be carefully taught.

The essential aspects of career education may be listed as follows:

Career education is not synonymous with vocational education but vocational education is a major part of career education.

Career education enhances rather than supplants public school educational programs.

Career education is an integral part of the total public education enterprise.

Career education involves all students--and all educators.

Career education involves expensive orientation and exploration of occupational opportunities.

Career education emphasizes individual instruction and student determination.

Career education is a continuum that begins at kindergarten and extends throughout employment.

Career education contributes to student incentive and aspirations.

Career education includes specific preparation for occupations.

Career education assures realistic occupational choices.

Career education promotes wholesome attitudes toward all useful work.

Career education permits each student to realistically assess personal attributes as a part of setting life goals.

Career education provides a means of articulation from grade to grade and level to level [Worthington, 1971].

Summary

A fundamental purpose of education is to prepare youth to live a productive and rewarding life. Data in reference to the number of dropouts and unemployed youth without salable skills would indicate that many schools are failing in this essential mission.

The career education concept is a series effort to correct the present problems of dropouts, and lack of salable skills by preparing our youth with two viable options upon leaving school--entering the world of work or pursuing further education.

CHAPTER VII

MODEL PLAN FOR A CAREER EDUCATION
CURRICULUM LABORATORY

The present term "Vocational Education Curriculum Laboratory" was used by the researcher during the preliminary and major research when discussing the study with personnel in the U.S. Office of Education, Executive Officers of State Boards of Vocational Education, State Directors of Vocational Education, and Directors of Vocational Education Curriculum Laboratories. At no time during the discussions was there a question regarding the meaning of the term. Based on this nationwide clarity of understanding, the researcher did not consider it prudent to suggest a drastic change in the name "Vocational Education Curriculum Laboratory" because of the rapidly increasing acceptance of the career education concept in the development of vocational education curriculum materials. In recognition of these factors, the modified name change "Career Education Curriculum Laboratory" was recommended for continued nationwide clarity in reference to the purpose and function of the Laboratory. This factor is significant in the model because of the emphasis on a national system of acquisition and dissemination of curriculum materials.

The Plan for a Model Career Education Curriculum Laboratory is based exclusively on personal interviews with Executive Officers of State Boards of Vocational Education, State Directors of Vocational Education, Directors of Vocational Education Curriculum Laboratories, on-site visitations to eight curriculum facilities across the country, an analysis of data in thirty-two applications submitted to the Bureau of Adult, Vocational, and Technical Education, USOE, for consideration of grant awards and an analysis of data collected with various instruments. These instruments were completed by State Directors and Directors of the Laboratories.

Whereas the plan for the model was based on the study report data, all recommendations within the model could not be made with equal specificity. For example, specific recommendations were made in reference to:

Participants in drafting of overall administrative policies

Curriculum development components

Participants in setting of priorities for curriculum development

In-service teacher education

Specific recommendations could not be made in such areas as:

Philosophy of laboratory operations

Location of laboratory

Size of laboratory

Equipping of laboratory

Staffing of laboratory

Costs to operate a laboratory

Therefore, the model was designed with flexibility, not alternatives; with direction, rather than specifics. This approach was taken in recognition of the differences among states in reference to the purposes of operation of present Laboratories. Consideration was also given to the establishment of new Curriculum Laboratories where the purposes of operation could be affected by the present regionalization efforts of the five states receiving a grant award from the U.S. Office of Education. The elements of a Model Plan for a Career Education Curriculum Laboratory follow.

Model Plan

Participants in Drafting of Overall Administrative Policies of a Career Education Curriculum Laboratory

In drafting overall administrative policies, the following persons should be involved:

Executive Officer of the State Board for Vocational Education

State Director of Vocational Education

State Program Specialists

Laboratory Director

Advisory committee--broadly and equitably representative of similar groups comprising state advisory councils for vocational education, including general educators (principals, teachers, and counselors)

Purposes of Laboratory Operations

The laboratory should serve one or more of the following purposes:

To acquire needed vocational curriculum materials from numerous sources and disseminate.

To acquire needed vocational curriculum materials from numerous sources, revise, and disseminate.

To develop needed vocational curriculum materials for dissemination, incorporating the career education concept, recommended curriculum development components, and audiovisual materials.

Location of Laboratory

The Laboratory should be located in one center to better insure:

Complete autonomy and freedom of operation

Development of interdisciplinary curriculums

Integration of the career education concept

Inclusion of various audiovisuals

Prevention of duplication of curriculum materials

Coordinative effort in the acquisition and dissemination of curriculum materials

Economy of operations

Participants in Setting of Priorities for Curriculum Development

The following persons should be involved in the setting of priorities:

Executive Officer of the State Board for Vocational Education

State Director of Vocational Education

State Curriculum Specialists

Laboratory Director

Advisory Committees

Recommended Curriculum Development Components

Curriculum materials developed should contain the following components:

- Measurable objectives
- Content
- Teaching strategies
- Learning experiences
- Teaching resources (audiovisual)
- Means of evaluation of curriculum

In-Service Teacher Education

Specialists in in-service education should take priority over program specialists in conducting in-service curriculum dissemination sessions.

Staffing of Laboratory

In staffing, priorities should be given to:

- Specialist in curriculum development, rather than content specialists
- Persons knowledgeable in academic disciplines
- Persons knowledgeable in the career education concept
- Persons knowledgeable in the acquisition and dissemination of curriculum materials
- Persons knowledgeable in research and evaluation
- Persons knowledgeable in the use of audiovisual equipment and its capabilities as it relates to curriculum development
- Librarians--curriculum materials and audiovisuals

Size of Laboratory

The Curriculum Laboratory should be of sufficient size to permit fulfillment of the state's purposes for laboratory operations in one center. Present Curriculum Laboratories range in size of facilities from a low of 800 square feet to a high of 14,000 square feet with a mean of 4,118 square feet.

Equipping of Laboratory

The state's decision regarding the purpose of Laboratory operation should be the basis upon which it determines the amount and type of equipment to purchase. Inventory budgets of equipment in the twenty-two Curriculum Laboratories in seventeen states range from a low of \$2,000 to a high of \$600,000, with a mean of \$130,776.

Costs to Operate Laboratory

The cost to operate a Laboratory, as with its size, amount, and type of equipment can only be determined after the purposes of Laboratory operation have been decided upon. The study indicated Laboratory operating budgets of the seventeen states ranged from a low of \$15,000 to a high of \$980,000, with a median of \$164,000.

It should be noted that the model is not conventional in approach. Since it could not be for reasons stated above, the entirety of the study report was designed to present the data with clarity and ease of understanding. The researcher therefore recommends to any state contemplating

establishing a Career Education Curriculum Laboratory or increasing the capability of its existing Laboratory, to review of relevant chapters of this study, using the model as a guide.

Use of the Model

Examples are given below to illustrate how the Model Plan can be used with flexibility as a directive in establishing a Career Education Curriculum Laboratory or increasing the capabilities of an existing Laboratory.

Participants in Drafting of Overall Administrative Policies

Participants in drafting overall administrative policies of the Laboratory are listed because data indicate considerable lack of participation and coordination at the top administrative level. Of specific significance is the relationship between the lack of top administrative participation and small Laboratory budgets. In most instances, there was also a correlation between this same factor and duplication of curriculum materials developed in the Laboratory and outside the Laboratory within the same state.

Purposes of Laboratory Operations

The determination of purposes of Laboratory operations is a basic decision that has to be made by any state contemplating the establishing of a Laboratory because the size of the Laboratory, amount and type of equipment, number of staff, and operational budget are dependent upon the

decision of purposes of Laboratory operations. It should also be noted that the five states receiving grant awards made a commitment to work with neighboring states in regionalizing their efforts. The size of state, need for various curriculum materials within the state, the emphasis on acquiring curriculum materials nationwide, and regionalization efforts anticipated are considerations in determining the purposes of Laboratory operations.

Location of Laboratory

Data indicate Laboratories to be located in state departments of education, universities, and an area vocational school. Choice of location should insure complete autonomy and freedom of operation. Advantages and disadvantages should be weighed for each contemplated location. For example, if considering a university:

Advantages--

- Possible free facility

- Possible free service of some staff

- Expertise of curriculum specialist available

- Potential teachers can be acquainted with curriculum materials

- Potential teachers have easy excess to on-the-job curriculum development experience

- Prestige of the university

Disadvantages--

- Possible charge for facility

- Possible high overhead for financial operations

Laboratory staff may not have faculty rank

Laboratory staff may not have autonomy and freedom of operation

The Laboratory may be known as the university's Laboratory rather than the state's Laboratory

Participants in Setting of Priorities

Data indicate a considerable lack of involvement of State Directors, state curriculum specialists, and advisory committees in establishing priorities for curriculum development. The involvement of the State Director is all the more important with the emphasis on career education, for it is primarily at this level that cooperative efforts are agreed upon with other divisions within state departments of education for a total career education effort.

Recommended Curriculum Development Components

The curriculum development components were adopted by the five states funded by the Bureau of Adult Vocational and Technical Education in an effort to standardize a format for the improvement of curriculum development. It is also the opinion that a more standardized curriculum format will make the materials more serviceable among the states, thereby increasing acquisition and dissemination efforts.

In-Service Teacher Education

Data indicate a lack of strong overall effort in conducting in-service curriculum dissemination sessions. It is recommended that a specialist in teacher

education conduct in-service sessions in the use of all materials.

Staffing of Laboratory

The five states receiving grant awards to increase the capabilities of their Laboratories have been designated as regional Laboratories and as a result have a commitment to encourage regionalization efforts of their respective surrounding states. Regionalization efforts with one of these states, coordinative efforts of states within the region, and emphasis on the acquisition of materials nationwide will help determine the purposes of operation of a Laboratory and ultimately the number and kind of staff.

Size of Laboratory, Equipment, and Operating Costs

As previously indicated, the size of the Laboratory, amount of equipment, and the operating budget varied to a great extent among the twenty-two Laboratories in seventeen states. Therefore, decisions in these areas can only be determined after the purposes of operations have been decided upon.

CHAPTER VIII

SUMMARY, CONCLUSIONS, AND
RECOMMENDATIONSSummary

The study was conducted for the Bureau of Adult, Vocational, and Technical Education, U.S. Office of Education, under Contract Number CEC-O-72-G558. The major purposes of this study were to (1) ascertain the state-of-the-art, nationally, of vocational education curricula developed within and outside of Vocational Education Curriculum Laboratories in the various states, Commonwealths, District of Columbia, and the Trust Territory; (2) survey Vocational Education Curriculum Laboratories for data on operating budgets, inventory of equipment, number of professional and support staff and size of facilities; (3) conduct a cost analysis of Laboratory budgets; (4) study the concept of career education; and (5) develop a model career education curriculum Laboratory.

The data on which to formulate the plan were obtained from personal interviews with Executive Officers of State Boards of Vocational Education, State Directors of Vocational Education, a two-day conference of Directors of Vocational Education Curriculum Laboratories, and personal

visitations to eight Laboratories throughout the nation.

The findings of this study covered a wide spectrum of data including: states with Vocational Education Curriculum Laboratories; states developing vocational instructional materials; degree of dissemination of curriculum materials nationwide; opinion regarding the need for an office on the Washington level to coordinate and disseminate vocational education curriculum materials, including the need for curriculum guidelines in emerging and innovative areas; need for Regional Vocational Education Curriculum Laboratories; location of present Laboratories; administrative patterns of Laboratories; sources of Laboratory funds; use of advisory committees; reasons for not establishing a Curriculum Laboratory; difficulty in hiring certain Laboratory specialists; academic preparation, educational and work experiences of Laboratory Directors; curriculum materials developed over time, during the past twelve months, and presently giving impetus to; and sale of curriculum materials. In addition, a cost analysis was made of funding requests submitted to Washington from thirty-two states. Data in this regard included analysis of grant requests, state contributions, fringe benefits, indirect and overhead costs, salaries of administrators, curriculum specialists and support staff, consultant fees, pay for substitute teachers, and budgets for operating costs. An analysis was also made of job responsibilities and titles of administrators, curriculum specialists, and support staff.

The data of the study provided the researcher with a basis for the development of a Model Plan for a Career Education Curriculum Laboratory. The comprehensiveness of the data permitted the development of a Model Plan with flexibility and direction rather than alternatives and specifics.

Conclusions

The researcher's opinion is that the Laboratory Directors and staff of the Vocational Education Curriculum Laboratories exhibited a high degree of dedication, excellence, and pride in the materials they developed. This was evidenced by the high quality of most of the curriculum materials, both in content and reproduction.

The following general conclusions were reached from the findings of the national study:

1. Financing and staffing were the two main reasons given for a state not having a Vocational Education Curriculum Laboratory.
2. Wide variances existed in the size of Laboratories (800 to 14,000 sq. ft.); number of staff (1 to 23); inventory of equipment (\$2,000 to \$600,000); and annual budgets (\$15,000 to \$980,000).
3. Considerable duplication existed in the development of the more traditional vocational education curriculums. Forty-two states were developing curriculum materials in home economics, thirty-nine in distributive education,

thirty-seven in office occupations, thirty-six in agriculture, and thirty-five in trade and industry.

4. A dearth of development of audiovisual materials was evident. Only five states were developing reel cassettes; eight, 16-mm films; ten, audio tapes; eleven, video tapes; and sixteen, film strips.

5. Dissemination of vocational education curriculum materials within the various states and nationally was rated less than fair. Only twenty-nine states indicated wide dissemination of curriculum materials within the states. Five states indicated wide national dissemination.

6. Nearly 50 percent of the State Directors from states with Vocational Education Curriculum Laboratories expressed a need for regional Vocational Education Curriculum Laboratories. Sixty-eight percent of the State Directors from states without a Laboratory expressed a similar need.

7. Forty-three State Directors favored a Vocational Education Curriculum Laboratory located in one center.

8. Data indicated no uniform pattern of administration of existing laboratories, although the Divisions of Vocational Education played an important role in most cases.

9. Eight of the seventeen Vocational Education Curriculum Laboratories are partially funded through the sale of vocational curriculum materials.

10. Ten State Directors from states with Vocational Education Curriculum Laboratories also allotted money for

the development of vocational instructional materials.

11. Three State Directors indicated that the Laboratory Director had no knowledge of what curriculum materials were being developed outside of the Vocational Education Curriculum Laboratory.

12. Advisory Committees were not used extensively in the approval of curriculum materials. Three states with Vocational Education Curriculum Laboratories did not use advisory committees.

13. Twenty-one State Directors had difficulty in hiring qualified curriculum specialists for the Laboratory and/or for the state staff.

14. Forty State Directors expressed a need for curriculum guidelines from the Washington level in emerging and innovative areas such as: career education, job clusters, interdisciplinary curriculums, and curriculums for cable TV.

15. Thirty-nine State Directors expressed a need for an office on the Washington level to coordinate and disseminate vocational curriculum materials.

16. Little similarity was evident in the educational preparation of Laboratory Directors.

17. Some similarity was evident in the educational experiences of Laboratory Directors. Six had secondary teaching and/or administrative experiences. Five Directors had secondary and university teaching and/or administrative experiences.

18. Seven Laboratory Directors did not have previous Laboratory experience.

19. Tenure of Laboratory Directors ranged from two weeks to seventeen years.

20. Laboratory Directors had little similarity of specialized preparation in curriculum development. Five had training at the collegiate level, plus special curriculum development seminars.

21. Laboratory Directors considered experiences that best qualify a candidate for the position of director to be, in priority order: teaching vocational courses, secondary school curriculum development, administration and/or supervision, major or minor in curriculum development, and trade and/or industrial work.

22. Laboratory Directors considered experiences of least importance to qualify a candidate for the position of director to be: knowledgeable in operating reproductive equipment, making audiovisual tapes, and use of cable TV.

23. Major job priorities of Laboratory Directors in priority order were: coordination of the development of vocational education curriculum materials, development of new and innovative curriculums, dissemination of curriculum materials, and development of interdisciplinary curriculums.

24. Lowest job priorities of Laboratory Directors were: development of vocational curriculums for use on cable TV and development of vocational curriculums using audiovisual materials.

25. Curriculum materials developed in new areas during the past twelve months had a remarkable lack of duplication compared to materials developed in the more traditional areas.

26. Duplication of curriculum materials developed in the more traditional areas was greater in the Laboratories when compared to vocational instructional materials developed outside the Laboratory. One hundred percent of the Laboratories were developing materials in trades and industry compared to 70 percent of the states, 94 percent in agriculture compared to 80 percent of the states, 88 percent in distributive education compared to 86 percent of the states.

27. Curriculum materials in elementary occupational orientation were being developed in five Laboratories.

28. Considerable variance was evident in the inclusion of the six curriculum development components recommended in curriculum construction. (Measurable objectives, content, teaching strategies, learning experiences, teaching resources, and means of evaluation.)

29. Six states with Vocational Educational Curriculum Laboratories made only minimal use of curriculum materials from other Laboratories.

30. Only a fair effort was made by Laboratory Directors in forwarding curriculum materials to ERIC.

31. Considerable variance was evident in providing in-service training sessions for the introduction of new

curriculum materials developed in the Laboratories. In four Laboratories, no in-service training sessions were provided. Five Laboratory Directors indicated no budget for such purposes.

32. Laboratories were financed by various sources of funds. Sixteen receive state funds; thirteen, federal funds; eight, money from sale of curriculum materials; seven, university funds.

33. Considerable variance was evident in revenue from the sale of curriculum materials, ranging from \$2,500 to \$483,000.

34. Ten Laboratory Directors anticipated a degree of Laboratory restructuring within the next twelve months.

35. Twenty-nine job responsibilities were identified for staff of the Laboratories.

36. Numerous titles were evident for the same job responsibility. (Seventeen different titles for the Laboratory Director, six for the Assistant Laboratory Director, eleven for the Media Specialists.)

37. Salaries of Laboratory staff had considerable variance, particularly the salaries of the Laboratory Directors, which ranged from \$8,200 to \$24,000, and Media Specialists, which ranged from \$5,286 to \$16,000.

Recommendations

The following recommendations include only those items that were considered to be most important and were

found either weak or lacking in relationship to the overall operation of Vocational Education Curriculum Laboratories:

1. It is recommended that existing and newly established Laboratories include a career education specialist on the staff.

2. State Directors, state curriculum specialists, staff of the Laboratories, and advisory committees should (1) work cooperatively in establishing the purposes of Laboratory operations, (2) set priorities for curriculum materials to be developed, and (3) establish policies to prevent duplication of curriculum materials.

3. State Directors should work cooperatively with state staff at their level and higher in efforts to develop the total career education concept, particularly as it relates to the components in curriculum development.

4. In addition to the present five designated regional Laboratories, regional Laboratories should be established in the northwest, north central, and northeast sections of the country, plus the Pacific and West Indies Islands to better insure (1) the inclusion of recommended curriculum development components in curriculum materials developed, (2) acquisition and dissemination of curriculum materials, and (3) avoidance of duplication of curriculum efforts.

5. It is recommended that the U.S. Office of Education publicize a format which includes the recommended curriculum development components in an effort to improve the

serviceability of curriculum materials developed. A curriculum format would insure greater acquisition and dissemination of curriculum materials among states and assist in clarifying the curriculum laboratory's true potential, purpose, and function.

6. Federally funded seminars should be conducted in the following areas to assist present Laboratory staff in increasing their productive potential and, particularly, to train staff for newly established Laboratories:

a. Training sessions for Laboratory administrative staff regarding the purpose, function, and operation of Laboratories under whatever purposes of Laboratory operations the state decides.

b. Training sessions in the use of audiovisual materials and equipment from the simplistic to the sophisticated as such materials relate to complementing curriculum publications.

7. Greater emphasis should be placed on curriculum development in new and innovative areas such as (1) elementary occupational education, (2) employment orientation, (3) curriculums for the handicapped and disadvantaged, and (4) curriculums geared to individualized instruction.

8. The numerous titles for the various Laboratory job responsibilities should be studied to arrive at certain commonalities.

9. The present name "Vocational Education Curriculum Laboratory" should be changed to "Career Education

Curriculum Laboratory."

10. The Model Plan developed in the present study is recommended for adaptation rather than adoption in establishing a Career Education Curriculum Laboratory or in increasing the capabilities of an existing Laboratory.

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APPENDIX A

PERSONAL INTERVIEW GUIDE

STATE _____

Personal Interview

STATE VOCATIONAL CURRICULUM LABORATORY

Person providing information:

Name _____

Position _____

1. Does the state have an identifiable Vocational Curriculum Laboratory facility?

Yes _____

No _____

If "yes," what is the

Approximate size of facility _____

Approximate number of full-time staff _____

Approximate investment in equipment _____

Approximate annual budget _____

Is your Vocational Curriculum Laboratory staffed and financed so that it can provide the kinds of instructional materials needed for the broad concept "Career Education"?

Yes _____

No _____

If no Vocational Curriculum Laboratory facility, give reason(s) why:

Facilities a problem _____

Staffing a problem _____

Financing a problem _____

Lab planned in the future _____

Do not see a need _____

University(s) and/or college(s)
providing curriculum materials _____

2. Name of Director(s) of Vocational Curriculum Laboratory and location:

3. If the Vocational Curriculum Laboratory is located in more than one location, is there a State Coordinator of all operations?

Yes--Name _____

No _____

4. The Vocational Curriculum Laboratory is located within:

State Department of Education _____

University or College _____

Community College _____

Other _____

5. Vocational Curriculum Laboratory is administered and supervised:

Exclusively by the Division of Vocational Education _____

Exclusively by the Director of Laboratory _____

By the Director of Laboratory under guidelines established by the Division of Vocational Education _____

By the Director of Laboratory under guidelines established by the University/College _____

Jointly by the Director of Laboratory and the Division of Vocational Education _____

Jointly by the Director of Laboratory and the University/College _____

Other _____

6. Vocational Curriculum Laboratory(s) located at a university, college, community college, or other independent facility is under contract with the Division of Vocational Education

Yes _____

No _____

Other arrangements _____

7. Vocational Curriculum Laboratory is financed:

Exclusively by Federal Vocational Education funds _____

Exclusively by State Vocational Education funds _____

Federal and State Vocational Education funds _____

Vocational Education and university, college, community college, or other funds _____

Approximate percentage of other funds _____

8. Vocational Education funds are used to support the publication of vocational instructional materials, in addition to those published at the Vocational Curriculum Laboratory.

Yes _____

No _____

If "yes," are these publications printed with the knowledge of the Director of the Vocational Curriculum Laboratory?

Yes _____

No _____

If the above situation exists, is there an effort made to avoid duplication of published vocational curriculum materials?

Yes _____

No _____

9. Publication of curriculum materials by the Vocational Curriculum Laboratory are approved by:

State Director of Vocational Education _____
Director of Curriculum Laboratory _____
Joint approval--above _____
University/College _____
Community College _____
Other _____

10. Curriculum publications are disseminated and used:

Widely throughout the state _____
Moderately throughout the state _____
Little throughout the state _____
Nationally--in approximately how many states? _____
Foreign countries _____

11. Advisory Committees are involved in approval of curriculum publications

Yes _____

No _____

12. What groups are represented on Advisory Committees?

Lay citizens _____
Organized labor _____
Management _____
Skilled craftsmen _____
Faculty members _____
Other _____

13. The following materials are provided in the laboratory:

Curriculum Guides

Agriculture

Distributive Education

Office Occupations

Technical

Trade and Industry

Health

Home Economics

Industrial Arts

Elementary Occupational Orientation

Apprentice Trades

Vocational Guidance

Student Manuals

Student Workbooks

Teacher Handbooks

Overhead Transparencies

Slides

Film Strips

Audio Tapes

Video Tapes

Reel Cassettes

16-mm films

8-mm loop films

Posters

Newsletters

Other

14. Have you experienced difficulty in hiring qualified vocational curriculum specialists, with the expertise to function in a Vocational Curriculum Laboratory?

Yes _____

No _____

Have not had to hire specialists _____

Curriculum specialists are available _____

15. Have you experienced difficulty in hiring qualified audiovisual communication specialists, with the expertise to function in a Vocational Curriculum Laboratory?

Yes _____

No _____

Have not had to hire specialists _____

Audiovisual specialists are available _____

16. The Vocational Curriculum Laboratory should be located in one Center to better insure:

Dis-
Agree agree

Coordinated effort in total program _____

Lower cost effectiveness of operation _____

Interdisciplinary approaches to curriculum construction _____

Incorporation of audiovisual communication specialists in curriculum construction _____

Flexible and adaptable curriculums to serve LEAs using modular scheduling, educational and cable TV _____

17. Do you see a need for a Regional Vocational Curriculum Laboratory?

No _____

Yes _____

Supplement state's curriculum effort _____

Replace state's curriculum effort _____

18. Do you see a need for an office on the Washington level to coordinate and disseminate vocational curriculum materials being developed by various states, agencies, departments, and non-profit organizations?

Yes _____

No _____

Other _____

19. Do you see a need for curriculum guidelines from the Washington level in emerging and innovative areas?

No _____

Yes _____

In such areas as:

Career education _____

Job clusters _____

Interdisciplinary curriculums _____

Curriculums for cable TV _____

Modular curriculum units _____

Other _____

20. Comments:

APPENDIX B

OPINIONNAIRE

OFFICE OF DOCTORAL STUDIES
COLLEGE OF EDUCATION
FAIRLEIGH DICKINSON UNIVERSITY
TEANECK, NEW JERSEY 07666

STATE _____

"Opinion Responses"

Priorities of Selected Job Responsibilities

Experiences that best qualify a candidate for the position of Director

1. Please indicate your responsibilities, where applicable, in priority order. Equal priority to two or more responsibilities is permitted. Number 1 being top priority, number 2 second, etc.

Giving leadership to:

- ___ Development of new and innovative vocational curriculums
- ___ Dissemination of curriculum materials
- ___ Coordination of the development of vocational curriculum materials
- ___ Development of interdisciplinary curriculums
- ___ Development of vocational curriculums using multi-media materials (transparencies, films, loop films, slides)
- ___ Development of vocational curriculums using audio-visual materials
- ___ Development of curriculums for various job clusters
- ___ Development of modular vocational curriculum units
- ___ Development of curriculums for use on cable TV

Other:

2. Disregarding your educational and/or work experience background, from your present experience, what group of experiences and estimated degree of value of each do you consider best qualify a candidate for your position.

Number 1 indicates least valuable
 Number 5 indicates most valuable
 Please circle choice

Administration and/or supervision	1 2 3 4 5
Teaching (vocational courses)	1 2 3 4 5
Teaching (academic courses)	1 2 3 4 5
Trade and/or industrial work	1 2 3 4 5
Major or minor in curriculum development	1 2 3 4 5

Knowledgeable in operating various kinds of reproduction equipment	1 2 3 4 5
Knowledgeable in making transparencies, slides, loop film, films	1 2 3 4 5
Knowledgeable in making audiovisual tapes	1 2 3 4 5
Knowledgeable in the use of cable TV	1 2 3 4 5

Knowledgeable in:

Elementary curriculum development	1 2 3 4 5
Junior or middle school curriculum development	1 2 3 4 5
Secondary school curriculum development	1 2 3 4 5
Post-secondary curriculum development	1 2 3 4 5
Adult curriculum development	1 2 3 4 5

Career education K through adult	1 2 3 4 5
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Other:

APPENDIX C

FACT FINDING SHEET REGARDING
LABORATORY DIRECTORS

OFFICE OF DOCTORAL STUDIES
COLLEGE OF EDUCATION
FAIRLEIGH DICKINSON UNIVERSITY
TEANECK, NEW JERSEY 07666

STATE _____

"Data on Directors of Vocational Curriculum Laboratories"

1. Educational preparation:

Less than baccalaureate	_____
Baccalaureate	_____
Master	_____
Doctorate	_____
Post-doctorate	_____

2. Educational major and minor:

Less than baccalaureate	
Major	_____
Minor (if any)	_____
Baccalaureate	
Major	_____
Minor (if any)	_____
Master	
Major	_____
Minor (if any)	_____
Doctorate	
Major	_____
Minor (if any)	_____

3. Educational experience (years)

	Teacher	Adminis- trator
Elementary school	_____	_____
Junior or middle school	_____	_____
Secondary school	_____	_____
Post-secondary--technical institute	_____	_____
Community college	_____	_____
Four-year college	_____	_____
University	_____	_____

4. Work experience:

	(kinds)	(months) or years)
Industrial	_____	_____
	_____	_____
Trades	_____	_____
	_____	_____
Business	_____	_____
	_____	_____
Agriculture	_____	_____
	_____	_____
Other	_____	_____
	_____	_____

5. Vocational Curriculum Laboratory experience (months or years):

Coordinator	_____
Director	_____
Assistant Director	_____
Supervisor	_____
Other _____	_____

6. Please indicate whether you have had specialized or in-depth training in curriculum development in any of the following:

Baccalaureate, masters, or doctorate programs	_____
Special curriculum development seminars	_____
Special in-service or pre-service programs	_____
Other _____	_____

7. In your state, would the educational qualifications of the Director of a Vocational Curriculum Laboratory differ if the laboratory was located at a university, state department of education, local school district, or other location.

Yes _____ No _____

If "yes," briefly explain why.